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The state of the bowels is of much greater importance, but it is essential that the patient's statements should not be accepted without examining the stools. It is quite insufficient to ask the patient to send a specimen in a small bottle. Each stool passed on two or three consecutive days should be inspected by the clinician, in addition to the microscopical and bacteriological investigations carried out by the pathologist. It is essential, too, that the stools should be natural ones and not obtained after an aperient or an enema.

*Mucus.*—Many people, medical as well as lay, appear to regard the presence of mucus in the stools as evidence of "mucous colitis." It should be remembered, however, that it is a function of every healthy mucous membrane to secrete mucus under certain conditions. In the colon it is normally secreted in order to protect the mucous membrane from mechanical and chemical irritants. Consequently hard fæces are likely to be coated with mucus, which at the same time facilitates their evacuation; it is secreted chiefly in the pelvic colon, where the fæces normally accumulate before evacuation, and, in patients with dyschezia, in the rectum.

Most aperients act by irritating the mucous membrane of the bowel; it is therefore natural that, unless the dose is very small, the soft or liquid stools to which they give rise should often contain mucus, secreted with the object of diluting the chemical irritant and so protecting the mucous membrane from damage. A similar response frequently occurs after injecting fluid into the bowel; the old custom, still followed in some spas, of sending every patient for a trial Plombières douche and, if mucus is found in the ejected fluid, diagnosing colitis as the cause of the rheumatism, eczema, or neurasthenia, for which the patient seeks treatment, has no scientific foundation, because many healthy colons respond to the abnormal stimulation of the douche by secreting mucus, even if the secretion gradually diminishes during the "cure," as the mucous membrane becomes accustomed to the treatment. Whenever possible, I like to examine a patient with the sigmoidoscope without any preparation by aperients or lavage, as I have frequently observed that the latter cause the mucous membrane to be slightly redder than usual and excess of mucus to be present, even if nothing more irritating than normal saline solution is used for the douche. The temporary congestion and the secretion of mucus under these conditions are the natural response to the irritant and are not signs of colitis. The mucus secreted with hard fæces and after the use of aperients or enemas contains no pus cells, no red corpuscles, and no excess of broken-down epithelial cells: evidence of inflammation is entirely lacking.

In the condition badly described as mucomembranous colitis, shreds or large membranes of mucus are excreted with hard fæces. I have repeatedly sigmoidoscoped patients with this condition, and I have never seen the slightest sign of inflammation, unless they have been treated with irritating douches. Nearly 20 years ago I suggested that this condition was strictly analogous with asthma; I still think that the analogy holds good. In asthma overactivity of the vagus leads to spasm of the bronchial muscles and excessive secretion of mucus by the bronchial mucous membrane. Owing to the spasm the mucus is retained long enough to coagulate, and, as it is slowly extruded along the spiral bronchi, it is moulded into the characteristic Curschmann's spirals. In uncomplicated cases there is no bronchitis, and the mucus contains no pus cells or albumin; the secretion ceases abruptly when the spasm relaxes at the end of an attack, whether this occurs spontaneously or after an injection of adrenalin. In the colon the spasm and over-secretion of mucus, which have been shown experimentally to occur on stimulation of the pelvic nerves, are due to similar nervous influences; the mucus, which contains no albumin and no pus cells, is retained owing to the spasm and is coagulated by a ferment, mucinase, which Roger [1] has isolated from both the bronchial and intestinal mucous membrane. Just as asthma may be complicated by bronchitis as a result of treatment by irritating inhalations, so mucomembranous colic, as it should be called, may be complicated by a mild form of true colitis as a result of daily irritation by injudicious local treatment. It is this fact which led Mathieu many years ago to say that more cases of colitis came from Plombières than went there, and I have no doubt from my own experience that this is also true of many other spas, both at home and abroad, though matters have greatly improved since the war.

*Pus and Blood.*—In true colitis the mucus always contains pus cells, and in the severe forms small quantities of pure pus can often be recognised in the stools. Microscopical examination reveals the presence of disintegrated epithelial cells, often in large numbers, but the presence of such cells without pus or mucus is not necessarily pathological. The presence of blood recognisable with the naked eye in a stool containing mucus and pus, whether mixed with them or in separate bright or dark red clots, generally indicates the presence of ulceration, but smaller quantities, and especially isolated red corpuscles only recognisable with the microscope, may be present in acute colitis without actual ulceration. When the source of blood and pus in the stools is the inflamed mucous membrane of the colon, the stools are always soft and generally liquid. In the typical stool of ulcerative colitis isolated patches of liquid fæces, mucus, pus, and blood can generally be recognised, in addition to muco-pus and pus stained with blood. The presence of solid fragments of fæces in such a stool would point strongly to the presence of a growth. When blood is passed alone or on the surface of lumps of solid fæces, together perhaps with a little mucus or muco-pus, colitis is certainly not the cause, and a local source in the anal canal or rectum should be looked for.

### 2. BACTERIOLOGY.

Incredible as it may seem, I have often met with cases in which colitis has been diagnosed simply because an examination of the stools has shown that the relative proportion of streptococci to *B. coli* differs from what the pathologist regarded as normal, or because he has isolated certain organisms which he did not regard as normal inhabitants of the bowel. It is not sufficiently realised how wide are the variations in the fæcal flora of normal individuals, and how greatly the number, character, and proportion of the bacteria present are influenced by diet and by changes in the consistence of the fæces, such as may be caused by the use of an aperient. It is also, apparently, forgotten that pathogenic organisms in the sputum, tonsils, or teeth may find their way into the fæces without causing infection of the mucous membrane of the alimentary tract, and how even typhoid bacilli or other obviously pathogenic organisms may be discovered in perfectly healthy carriers long after they have recovered from the acute infection. Moreover, intestinal toxæmia may result from the absorption of poisons produced by excessive bacterial decomposition of proteins in the intestines in the complete absence of enteritis or colitis.

There can, of course, be no doubt that colitis of all kinds is almost always due to infection of the mucous membrane of the colon. But, unfortunately, our knowledge of the normal intestinal bacteriology is still so incomplete that it is rarely possible to recognise which of the organisms found in the stools of a definite case of colitis is responsible for the development of the disease. In most cases the abnormal flora in ulcerative colitis are not due to the infection, but to the fluid nature of the stools and the presence of excess of soluble protein, blood, and pus, which form a culture medium specially favourable for the growth of certain bacteria at the expense of others. When allowance was made for this, the evidence in favour of any particular organism found in the stools being the cause of the colitis has, in no single case coming under my observation, appeared to be conclusive.

In a report on an epidemic of "idiopathic ulcerative colitis," which resulted in 118 deaths in the Lancaster County Asylum in 1898, Gemmel[2] expressed his belief that this condition, which had always been well known in asylums, was really dysentery. Vedder and Duval,[3] working under Flexner in 1902, proved that epidemics of "dysentery" occurring in institutions in America were caused by the *B. dysenteriæ*, and two years later Eyre[4] showed that asylum dysentery in England was also caused by this organism. As the *B. dysenteriæ* is likely to be enormously outnumbered by the *B. coli* in the stools, the isolation of the former, except at the onset of acute cases, is extremely difficult. So far as I am aware, no bacteriologist has yet succeeded in isolating a dysentery organism from the stools in the sporadic disease as it occurs in England, but Dudgeon[5] has isolated the Flexner bacillus from material obtained from the surface of an ulcer through a sigmoidoscope in two cases. I was so struck in 1921 with the resemblance between the appearance of the colon seen with the sigmoidoscope in bacillary dysentery and in sporadic ulcerative colitis that I revived the suggestion made by Saundby[6] in 1906 and Hawkins[7] in 1909 that the latter might also be due to infection with the *B. dysenteriæ*, but in no case have my bacteriological colleagues been able to isolate the organisms from the stools or from swabs taken directly from the ulcers through the sigmoidoscope, and in no case has the patient's blood agglutinated any of the known strains of *B. dysenteriæ*.

In 1924 Barger,[8] of the Mayo Clinic, isolated a Gram-positive non-mannite-fermenting diplococcus from swabs taken through a proctoscope from the ulcers in 80 per cent. of 68 cases of ulcerative colitis, but in only 1 out of 20 healthy patients. Intravenous injections of the diplococcus produced similar lesions in rabbits and dogs. In a few cases the same organism was isolated from apical dental abscesses and from infected tonsils in patients suffering from the disease.

So far as I know these observations have remained unconfirmed until now. Dr. T. Houston, of Belfast, has, however, recently isolated a similar organism, but he is not yet convinced that Barger is correct in regarding it as the specific infective agent in sporadic ulcerative colitis. A recent paper on ulcerative colitis from the Mayo Clinic by Buie[9] raises a suspicion that the ulcerative colitis, from which Barger isolated his diplococcus, is not the same disease as that occurring in England. He refers to "the most significant phase" in its development being the appearance of miliary abscesses immediately beneath the superficial layer of the mucous membrane; these abscesses are said to rupture and leave miliary ulcers. I should have regarded this as a good description of the development of the ulcers in amœbic dysentery; I have never seen anything of the kind in ulcerative colitis and bacillary dysentery, in both of which the ulcers appear to result from superficial necrosis of the acutely inflamed mucous membrane.

### 3. THE SIGMOIDOSCOPE.

When, 18 years ago, I was invited to take part in the discussion on ulcerative colitis held in this Section, I declined, as I realised I had no knowledge of the clinical aspects of the disease. On reading the report of the meeting it is clear that Mr. J. P. Lockhart-Mummery, who had recently examined six cases with the sigmoidoscope, was the only speaker who was in a position to add anything to our knowledge of the disease, since it was first described in 1875 by Sir Samuel Wilks[10] and subsequently in 1888 by Sir William Hale-White[11] as a result of their observations in the post-mortem room at Guy's Hospital. Since 1908 I have passed the sigmoidoscope in every case in which disease of the colon has been suspected, and I have constantly urged upon others that its use should be regarded as within the province of the physician, just as much as that of the ophthalmoscope. Unfortunately, however, it is still often considered to be a surgical instrument, with the result that numerous cases of cancer, which could not be recognised without its aid, are diagnosed too late, and a totally wrong conception of colitis is still widely prevalent. Nobody would think of treating a case of tonsillitis without looking at the tonsils; it is even less justifiable to treat a case of colitis without looking at the colon, because the symptoms are far less distinctive, and the possibility of cancer can be excluded in no other way.

The sigmoidoscope can almost invariably be passed if the patient is in the knee-elbow position without any special preparation and without causing any pain. Ulcerative colitis can be recognised at the first glance, but the appearance it presents is indistinguishable from that of bacillary dysentery. On the other hand, amœbic dysentery presents a quite distinctive picture, and I have several times been able to diagnose it, occasionally in individuals who had never been abroad, when examination of the stools had failed to reveal either amœbæ or cysts; in every case the diagnosis was confirmed by complete recovery within a few days as a result of treatment with emetine.

If the mucous membrane of the rectum and pelvic colon is quite healthy, ulcerative colitis can be excluded, as the disease seems always to begin in the most distal segment of the colon and to persist there longer than in any other part. When, therefore, stools containing blood and pus are passed by a patient, in whom the sigmoidoscope has revealed no evidence of ulcerative colitis, a growth of the colon is almost certainly present, and if it is situated within 12 inches of the anus it should be possible to recognise it with the sigmoidoscope, even if it cannot be felt by either rectal or abdominal examination.

### 4. RADIOLOGICAL EVIDENCE.

Certain radiologists, whose work does not bring them into sufficiently close association with the clinical and pathological aspects of the cases they investigate, frequently diagnose catarrh of a part or the whole

of the colon from the appearances obtained with the X rays after an opaque meal. The evidence upon which they depend is very variable, but as the diagnosis is made independently of any pathological or other confirmation, it is, of course, completely unreliable. I have seen numerous patients, who have been treated for months or years for a colitis which they never had, but which had been diagnosed on radiological evidence alone; many had become confirmed hypochondriacs as a result. When the sigmoidoscope has revealed nothing abnormal and the symptoms point to the presence of some disease of the colon, a barium enema should be given. By this means alone is it possible to recognise diverticulitis, a comparatively common disease, which generally involves the iliac and pelvic colon, and which was formerly almost invariably mistaken for either a growth or colitis; it is, moreover, the only common cause of pericolitis sinistra. An opaque enema also often shows the presence of a growth at a stage when it is still impalpable and causes no delay in the transit of an opaque meal.

An X ray examination after an opaque enema should always be made in long-standing cases of ulcerative colitis which are not responding satisfactorily to treatment, as this may be due to the development of a stricture, the exact position and extent of which can be recognised in no other way. By this means the need for a short-circuiting operation was discovered in two of my cases, although there was nothing in the symptoms to suggest that obstruction was developing. The extent of the ulcerative process in the earlier stages can also be recognised with the X rays after an opaque meal by the disappearance of the normal haustration and the mottled appearance of the shadow, but as the whole colon is almost always involved, the examination rarely provides information which was not already available from the known pathological anatomy of the disease.

## CLASSIFICATION.

Long-continued irritation of the colon by hard scybala or by aperients might theoretically produce a definite catarrh of the mucous membrane, but there is nothing about the stools or the sigmoidoscopic appearance which makes it possible to recognise such cases from those in which the mucous membrane is still healthy and simply responding to the irritation by the secretion of mucus. Moreover, symptoms and signs of irritation rapidly disappear when the cause is removed, though excess of mucus may continue to be passed for some time. Other mechanical irritants, such as excess of indigestible vegetable residue, and other chemical irritants, such as excess of mustard, pepper, or curry, may exert a similar action, but here, again, it is very doubtful whether they ever give rise to true catarrhal colitis.

On the other hand, the chemical and bacterial irritants resulting from the consumption of decomposing and infected food may leave behind a condition of chronic inflammation after the acute entero-colitis to which it at first gives rise has disappeared. It is necessary, however, to add that the chronic diarrhœa, which is an occasional sequel of acute food poisoning, is more often due to the achlorhydria caused by the associated acute gastritis than to colitis, as no inflammatory products are found in the stools, the sigmoidoscope shows no sign of inflammation, and the diarrhœa ceases abruptly when hydrochloric acid is administered, even if it has been present for several years.

Apart from the specific forms of colitis caused by infection with the *Amœba histolytica* and *B. dysenteriæ*, and sporadic ulcerative colitis with its clear-cut clinical and pathological picture, I am doubtful whether any other forms of severe colitis exist. Occasionally symptoms of ulcerative colitis are found to be associated with a very red and swollen mucous membrane which is not actually ulcerated; I believe, however, that this generally represents an early stage of the same disease. The acute colitis caused by various mineral poisons and the ulcerative colitis which is a rare terminal event in various toxæmic states, such as uræmia, do not come within the scope of to-night's discussion.

## COMPLICATIONS.

The high recovery-rate following improved methods of treatment has resulted in the occasional development of late complications, which were formerly rare or unknown. Thus the autopsy records of the London hospitals for the 25 years ending in 1908 did not contain a single example of stricture following ulcerative colitis. I have, however, now watched this develop in four cases*; in the last two the strictures, which were multiple, were so severe that short-circuiting operations had to be performed before complete recovery could occur.

I have also on three occasions watched the development of polypi as the ulceration healed, and Dr. J. A. Ryle tells me he has had the same experience. In a case of polyposis of the colon now under observation there is a long history pointing to a similar origin, and the polypi are still accompanied by severe colitis. I expect that it will ultimately be found that most cases of polyposis of the colon originate during the healing of ulcerative colitis. As the polypi show a definite tendency to become malignant, an intermediate stage of polypus formation was the probable explanation of the development of a growth of the pelvic colon two years after complete recovery from ulcerative colitis in one of my pre-war patients and of cancer of the rectum following chronic dysentery in two others. In one of my cases innumerable small polypi had developed by the time the ulcers had healed; the stools were normal and the patient felt perfectly well. All the polypi disappeared, leaving no trace behind, as a result of treatment with deep X rays by my colleague, Dr. W. L. Watt.†

In spite of the complications I have described the majority of cases heal completely, healthy mucous membrane developing where at one time confluent ulceration was present. Much scarring is often present, but with a magnifying eye-piece the sigmoidoscope shows that this is situated in the submucous tissue, where widespread white scars may alternate with deep red patches of dilated and sometimes stellate blood-vessels; the mouths of new-formed crypts of Lieberkuhn can be seen to be evenly distributed over the whole surface of the mucous membrane. I had recently an opportunity of observing this condition four years after recovery from an exceptionally severe attack of ulcerative colitis which had lasted for three years.

## TREATMENT.

The patient should be kept in bed until the sigmoidoscope has shown that complete recovery has taken place. As this may require many months and sometimes even a year or more, a greatly restricted diet, such as one of milk and milk foods, is likely to lead to anæmia and other undesirable complications, which can be avoided by a generous mixed diet, from which everything leaving any solid residue is removed, all vegetables and fruit, for instance, being passed through a fine sieve. Fresh air and exposure to the sun, and in winter to ultra-violet rays, help to improve the patient's general condition. When much blood has been lost transfusion is of great value, not only in combating the anæmia, but also, apparently, by directly increasing the patient's power of overcoming the infection.

Until recently all attempts at specific treatment had failed, as the infective organism remained unknown. In 1919 in the belief that the disease was really an aberrant form of bacillary dysentery, I tried the effect of intravenous injection of large doses of polyvalent antidysenteric serum. In the first case the result was little short of miraculous. A young

* The first two of these cases were recorded in Guy's Hospital Reports, January, 1925, by Dr. C. Ive and Dr. J. F. Venables respectively.

† This case was recorded by Mr. J. G. Kingsbury in Guy's Hospital Reports for 1926 (lxxvi., 101). The other two cases of polyposis, both of whom are now quite well, were described in Dr. Ive's paper, loc. cit.

man, who was almost moribund after being very ill for over a year, and in whom no improvement had followed an appendicectomy, recovered completely in a fortnight; five days after the first injection the sigmoidoscope showed that the innumerable ulcers seen a few days before had vanished, and nine days later the appearance of the mucous membrane was absolutely normal. In the eight years which have since elapsed he has had no recurrence; in reply to a letter of inquiry a fortnight ago he wrote that he is perfectly fit and well able to carry out his strenuous duties as an engineer on the underground railways. Since 1919 I have used antidysenteric serum in every case, often with excellent results, though occasionally with little or none. I realise that the treatment may really be non-specific and nothing more than a form of protein shock, although in one case it proved very effective after a series of injections of ordinary horse serum had failed to produce improvement. The dose of serum I now use is 40, 60, 80 and 100 c.cm., injected intravenously on successive days, and then 100 c.cm. for a few additional days. The reaction is occasionally somewhat alarming, but it is never really dangerous.

Barger and Logan have vaccinated 93 patients with the diplococcus they have isolated from the surface of the ulcers. All have been treated by other means as well, and as they reported that only 10 were "clinically, radiologically, and proctologically" cured, I do not think that there is yet sufficient evidence to say that the vaccine exerts a definite influence on the course of the disease. In the most recent report of the new vaccine treatment (April, 1926) Buie refers to 17 cases in which "the stools became normal and the weight satisfactory, but ulceration in the rectum and sigmoid persisted, as revealed by sigmoidoscopic examination." He then expresses his belief that "the chronic ulcerative colitis was cured in most of these and the ulceration was of the secondary infective type," which he does not think is influenced by the vaccine. It is, however, just this persistent ulceration which presents the chief difficulty in treatment, and it is far from clear what effect the vaccine is supposed to have if such ulcers persist after a course of inoculation. I agree with Barger and Logan as to the wisdom of removing such infective foci as teeth with apical abscesses and inflamed tonsils, though, like them, I have seen a severe local reaction follow the operation. In such cases, which I believe are rare, a secondary infection of the specific ulceration has probably taken place.

Local treatment of the colon is undoubtedly of use. Instead of albargen, which I formerly employed, but which cannot now be obtained in its original unirritating form, I generally use tannic acid (gr. i.–ii. to 1 oz.); in my experience it has been more satisfactory than other silver preparations, potassium permanganate, or acriflavine. It is most important that the fluid should be introduced through a soft catheter, which should not be passed more than an inch beyond the anus, as otherwise the rectal mucous membrane is likely to be injured. I give half an ounce of charcoal and kaolin two or three times a day in the hope that they will absorb toxins; the former certainly absorbs gas and so relieves colic, and it also deodorises the stools. There is no evidence that any so-called intestinal antiseptic exerts any action in the colon when given by mouth. During the last two years I have tried the effect of a culture of *B. acidophilus* instead of the sour milk I formerly used, but I am not convinced that either is of proved value in overcoming the infection, and in one instance a contaminated preparation led to a severe relapse.

It is of the utmost importance that the stools should not be allowed to get hard during convalescence, and for this reason a saline aperient or paraffin should be regularly taken; the former may also reduce the frequency of defæcation in the early stages and in this way may help to give the patient a less disturbed night. I am convinced, too, that every patient who has ever had ulcerative colitis should for the rest of his life keep his stools soft by means of salts or paraffin, and should avoid all food leaving any solid fragments which could irritate the mucous membrane of the colon. The danger of relapse is, however, largely due to the fact that patients are allowed to get up and discontinue treatment when they feel well and the stools look normal, which is often many weeks before the sigmoidoscope shows that true recovery has taken place.

I have already referred to the occasional necessity for a short-circuiting operation in order to overcome the obstruction caused by the development of a stricture in the process of healing. Apart from this I believe that surgery is very rarely required. The only fatal case I have had among my 19 hospital and private patients since the war was a woman, who died of broncho-pneumonia when she was improving as a result of an appendicostomy, performed on my advice a few weeks earlier. In three other cases an appendicostomy had been performed, but without obvious benefit; it was allowed to close when they came under my care, and the medical treatment I have described was substituted with ultimate success. The bowel can certainly be more efficiently washed out through the appendix than from below, and the operation itself is almost devoid of danger, so that in cases which are not improving satisfactorily under medical treatment the question of operation requires consideration; if it is performed, none of the other forms of treatment which are known to be of use should be discontinued. But the results of medical treatment in my series of cases compares very favourably with the statistics of appendicostomy. Thus in 1923 Lockhart-Mummery [12] referred to 49 cases of which 9 died; if to these are added the statistics of Logan from the Mayo Clinic (51), Bastedo,[13] of New York, and Strauss [14] of Berlin, we get 118 cases with 29 deaths, or a mortality of 24·6 per cent., compared with a mortality of 1 out of 19 cases in my series, only 4 of which had undergone appendicectomy.‡

## REFERENCES.


1. Roger, G. H.: Alimentation et Digestion, p. 453, Paris, 1907.
2. Gemmel: Idiopathic Ulcerative Colitis, 1898.
3. Vedder and Duval: Jour. Exper. Med., 1902, vi., 181.
4. Eyre, J. W. H.: Brit. Med. Jour., 1904, i., 1902.
5. Dudgeon, L. S.: THE LANCET, 1923, i., 1007.
6. Saundby, R.: Brit. Med. Jour., 1906, i., 1325.
7. Hawkins, H. P.: Ibid., 1909, i., 767.
8. Barger, J. A.: Jour. Amer. Med. Assoc., 1924, lxxxiii., 332; Barger, J. A., and Logan, A. H.: Arch. Int. Med., 1925, xxxvi., 818.
9. Buie, L. A.: Jour. Amer. Med. Assoc., 1926, lxxxvii., 1271.
10. Willis, S., and Moxon, W.: Lectures on Pathological Anatomy, second ed., 1875, p. 408.
11. Hale-White, W.: Guy's Hosp. Reports, 1888, xlv., 131; Allbutt and Rolleston's System of Med., 1907, iii., 826.
12. Lockhart-Mummery, P.: Disease of the Rectum and Colon, London, 1923, p. 429.
13. Bastedo, W. A.: Med. Jour. and Record, Sept. 3rd, 1924.
14. Strauss, H., in Kraus and Brugsch's Spez. Path. u. Ther. d. inn. Krankh., vi., I. Hälfte, II. Teil, 1922, p. 330.


‡ In one case it was found necessary to perform a colostomy and excise the pelvic colon and rectum owing to persistent rectal hæmorrhage; this was, however, done at the patient's home, several months after she had left hospital against my advice, as I believed that further treatment would have resulted in a cure, a belief which was, I think, confirmed by the pathological examination of the excised bowel, which showed that healing had progressed so far that nothing more than a few superficial erosions of the mucous membrane were still present.

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ROYAL MEDICAL BENEVOLENT FUND.—The following are some additional cases relieved at the last meeting:—

M.R.C.S. Eng., aged 63. After an assistantship ended in 1924, tried to establish a practice in the Midlands, but has had to give it up on account of deafness. From the practice made £47. Gifts from relatives £6. Board and lodging £68. Fund voted in 1925 £30, and this month £40 in 12 monthly instalments.

Daughters, aged 62 and 54, of M.R.C.S. Eng. who died in 1903. Eldest suffers from phlebitis and younger one is epileptic. Total income amounts to £79 per annum. Rent and rates £37. Relieved 18 times, £393. Voted £26 in 12 monthly instalments.

Daughters, aged 64 and 66, of M.R.C.S. Eng. who practised in Wales and died in 1873. They live in a two-roomed hut for which they pay £1 per annum for ground rent. One has the R.U.K.A. Annuity of £26, and they made £5 from poultry. Friends gave £7. Relieved 10 times, jointly £154. Last year voted £24 each in monthly instalments, which was renewed.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., at 11, Chandos-street, Cavendish-square, W. 1.

# SOMNIFEN TREATMENT IN THE PSYCHOSES.

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THE use of "Somnifen" for the production of a state of twilight sleep in psychotic cases has had a considerable trial abroad since the first publication by Kläsi in 1922.[1] The general opinion held after three years was summed up by Müller[2] in 1925—namely, that while the induction of such a twilight sleep lasting about a week has proved of sufficient value to be accepted as a useful form of treatment, the use of somnifen for its production has dangers and disadvantages—the death-rate among cases recorded being about 5 per cent.—that this drug should be used only as one of the many available hypnotics, and that suitable combinations of these should be tried according to the requirements of the individual case.

In England the new drug was first tried at the Maudsley Hospital in September, 1924. The advantages claimed for it over the other drugs of the barbituric acid group are that it is soluble and, therefore, readily absorbed and excreted, and its solution is stable, so that it can be kept and used conveniently for intramuscular and intravenous administration. In the annual report of the medical superintendent of the hospital for 1925 mention is made of the effects produced. In view of the recent notice in THE LANCET (Sept. 25th, p. 662) of the results achieved abroad, it seems worth while to report a series of cases in which it has been used in this country.

Kläsi emphasises that it should be used strictly according to his method—namely, giving at first an injection of morphine gr. ¼ and hyoscine gr. 1/100, followed in half an hour by two ampoules each containing 2 c.cm. of somnifen solution (diethylamine diethyl dipropenyl barbituric acid). The injection must be injected deeply into the muscles if not given intravenously, as subcutaneous injection produces sloughing. After this a twilight sleep condition must be maintained by doses of one ampoule at intervals, usually of six to eight hours. The treatment is best carried out in a darkened quiet room; fluid diet, attention to excretion, and careful watching of the pulse are needed, and the patient can be roused for attention and will doze off again. If he is allowed to become fully awake the treatment must be restarted. Contra-indications are heart or kidney disease or extreme emaciation. The treatment must be stopped if vomiting or cardiac failure occur, and during menstruation.

The cases treated may be divided into (1) those given the full course according to Kläsi's plan, being kept in a twilight sleep state for five days or more; (2) those started in this way and stopped for some reason; (3) those given in a different way.

1. The first group contains seven female and six male cases.

*Females.*—1. Mrs. A., aged 30; post-puerperal confusion with hallucinations, five months duration. Morphine and hyoscine (M. and H.) followed by two ampoules somnifen, and ten subsequent doses of one ampoule in five days, with two doses of paraldehyde in addition; only occasionally restless and slept most of the time; stopped as she became more restless and vomited. Rather quieter and more accessible for about one month, though still hallucinated; relapsed then, and no further improvement.

2. Miss B., aged 28; acute melancholia with delusions of unworthiness; agitated but not hallucinated. Had strict somnifen treatment (M. and H. followed by two ampoules) and then ten ampoules in five days; slept constantly, cyanosed hands became warm and moist, pulse became rapid and weak, so that treatment was stopped. Improved considerably for about a week, during which she was interested in occupations and mildly depressed, but relapsed badly after that, and became hallucinated for sight and hearing and acutely suicidal.

3. Miss C., aged 32. Case of ten years recurrent attacks of excitement and depression with hallucinations; was confused, incoherent, hallucinated, and restless. M. and H. followed by somnifen, two ampoules, and then 11 doses in five days; constant drowsiness; stopped because pulse became weak. Marked improvement for about a week, accessible, clear, no hallucinations, then relapsed into alternating between days of normality and days of hallucination and incoherent chatter.

4. Miss D., aged 19; acute mania; noisy and destructive. M. and H. followed by somnifen; kept drowsy and quiet for seven days with 22 doses of one ampoule; had retention of urine and cystitis. Required other sedatives for a time, then lapsed into confused depressed state and finally recovered some months later. No evident benefit from somnifen over other sedatives.

5. Miss E., aged 28; acute mania; three months noisy, destructive, and dirty; M. and H. followed by somnifen, then one ampoule b.d. with a few doses of paraldehyde: remained drowsy and quiet; total nine doses in five days; quiet and rational for two days after, then relapsed completely. Stopped because pulse became weak.

6. Mrs. F., aged 31; recent melancholia, screaming in agitation. Given digitalin (nativelle) 1/600 with each dose, as pulse poor from start; had one ampoule eight-hourly for five days, needed 1 drachm of paraldehyde in between, with this remained quiet and drowsy; treatment stopped as pulse weaker. No subsequent improvement.

7. Mrs. G., aged 27; puerperal mania. Received six ampoules of somnifen in four days in addition to three injections of ¼ gr. morphine and 1/100 gr. hyoscine. The excitement was reduced, but the periods of drowsiness were very brief. The course of the excitement was not influenced.

*Males.*—8. Mr. H., aged 47. Acute depression with agitation and phases of vivid hallucinosis. Treatment was begun with M. and H., followed by nine ampoules of somnifen given over a period of five and a half days. The patient remained drowsy while the drug was given, but afterwards relapsed to his former state. The treatment was repeated two months later and ten ampoules were given over a period of six days, but there was no physical or mental improvement beyond a gain of a pound in weight.

9. Mr. I., aged 43. Manic phase of manic depressive psychosis. After M. and H. he received seven ampoules in seven days, together with several doses of paraldehyde. The excitement was controlled and drowsiness maintained, but there was no lasting benefit.

10. Mr. J., aged 41. Mania. Received seven ampoules in six days as well as bromides, and was quiet and drowsy during this period, but relapsed afterwards.

11. Mr. K., aged 60. Tabes with agitated depression. Received six ampoules in five days when the treatment was discontinued owing to signs of cardiovascular failure.

12. Mr. L., aged 55. Agitated depression with arterio-sclerosis. Received five injections in four days, together with several doses of paraldehyde. He became collapsed, but the signs of cardiovascular failure passed off when the drug was discontinued. The course of the depression was not influenced.

13. Mr. M., aged 23. Acute excitement, probably schizophrenic. Emotionally exalted with hallucinations and rather fantastic delusions. He received six ampoules in five days and seemed to be better for some days afterwards, but then relapsed to his former state.

2. In four cases treatment by somnifen was stopped prematurely.

1. Mrs. O., aged 35. Anxiety state passed into agitated depression with hallucinations; restless, impulsive, confused. M. and H. and somnifen started, six doses given in three days; no twilight sleep could be maintained and pulse got very weak and rapid, so that treatment was stopped.

2. Miss P., aged 50. Agitated melancholia with fears of torture, &c. Given M. and H. and 2 ampoules somnifen, slept well all night but awoke next day with persecutory delusions about the injection and very agitated and resistive; treatment was not continued as she had been getting more agitated for some time and no benefit appeared from the somnifen sleep.

3. Mrs. Q., aged 28. Acute confusion with hallucinations; agitation and restlessness following childbirth—possibly encephalitis lethargica. Somnifen one ampoule was given, but her pulse became bad and no further doses were given.

4. Mrs. R., aged 27. Acute mania of some months duration. Given one ampoule somnifen twice and slept well on it, but her pulse became weak and colour bad, so it was discontinued.

3. One other case—a long-standing hypochondriacal woman of 27 with vague ideas of suspicion and intractable sleeplessness which resisted all drugs, was given M. and H. followed by somnifen every night for four nights; on two she slept well, another night she needed paraldehyde in addition, and then she

was kept awake by a sore arm from some necrosis around the site of injection of somnifen, so that treatment was stopped. Here there seemed only slightly better sedative effect than with other drugs, and her sleeplessness and general mental condition was unaffected.

*Conclusion.*

Summarising these results, one may say that in most cases where the treatment can be continued a twilight sleep state can be maintained; that any improvement following this treatment is quite transitory, there being no change at all in some cases; that there are considerable risks attached to the use of somnifen, as in many instances the pulse becomes progressively weak, rapid, and often irregular: and that while in our series there have been no deaths—this is largely owing to careful watching of the heart's action and stopping treatment in good time. Only one case had retention of urine and cystitis. The improved contact with the environment claimed by Klăsi was not conspicuous, a few cases showing it for a few days only and then relapsing. Generally speaking, one may say that somnifen, as a soluble sedative which can be given intramuscularly, has its place in the list of available sedatives for psychotic patients, but has considerable risks and no special advantages. If a twilight sleep of some days duration is of benefit in some cases, this has not been evident in our series, and the advice of Müller may well be taken, to produce it where desirable by means of combinations of hypnotics rather than by somnifen.

We wish to thank the medical superintendent of the Maudsley Hospital, Dr. Edward Mapother, for his permission to publish these cases.

*References.*—1. Klăsi, J.: Über die therapeutische Anwendung der "Dauernarkose" mittels Somnifen bei Schizophrenen. Zeitschr. für. die ges. Neur. und Psychiatr., 1922. 2. Müller, M.: Die Dauernarkose mit Somnifen in der Psychiatrie, Ibid., May, 1925. See also Epitomes, Journal of Mental Science, 1925, pp. 333 and 775.

## A CASE OF LYMPHATIC LEUKÆMIA OF UNUSUAL TYPE.

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WE have provisionally classed this case as lymphoid leukæmia. It presents certain remarkable features, and is recorded in view of the interest that is now being taken in the pathology of blood diseases and the difficulty of classification of border-line cases.

Male, aged 16, admitted to Sheffield Royal Hospital on March 11th, 1925, and died on Sept. 30th, 1925.

He was working as a hammer driver in October, 1924, when he wounded the middle finger of his right hand. It became septic later and was "lanced." Three weeks afterwards a lump appeared above the right elbow and another in the right armpit. They were at first painful, but the tenderness gradually disappeared, though the lumps remained up to death. In the latter half of November lumps were noticed behind both ears, and a little later in other parts of the neck and under the chin. In December the eyes became bloodshot and shortly after this he had to cease work on account of weakness. About February his face became puffy and discoloured and dark patches began to appear on the skin wherever it was rubbed. At this time also some lumps were noticed over the shoulders. The appetite was becoming more and more impaired, he vomited sometimes, and he had particular difficulty in swallowing hard solids. The bowels were opened regularly, and occasionally the stools were noticed to be very black.

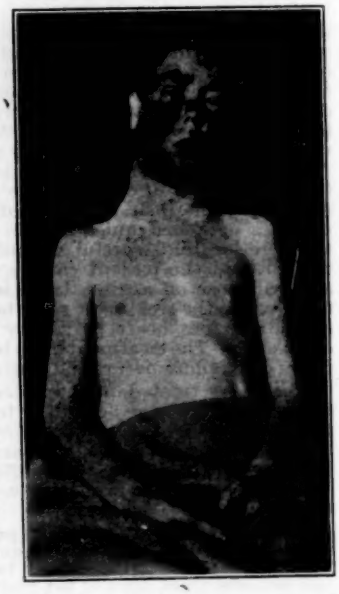
*Previous History.*—Scarlet fever at 5, followed by glandular swelling in the neck and operation. Influenza at 8; in bed two months. Has always bled freely when cut.

*Condition on Admission.*—The whole face was puffy and swollen; very marked purplish discoloration of the cheeks, eyebrows, and chin. Eyelids swollen so as to produce a condition of half closure; large subconjunctival hæmorrhages on both sides. The skin of upper part of chest shows numerous purple lines, suggesting subcutaneous hæmorrhage caused through scratching himself. Deep purple discoloration around both nipples. Ears: Old-standing otitis media suppuration with loss of both tympanic membranes. Larynx: General infiltration, swelling, superficial ulceration, and ecchymosis of the epiglottis. Hard and soft palate, including the alveolar portion, swollen and infiltrated with areas of ecchymosis. Lymphatic glands: In the neck there was widespread moderate enlargement of glands in both anterior and posterior triangles; there was a chain of rather smaller glands running the anterior border of each trapezius muscle. Numerous glands in both axillæ and groins showed enlargement. The right supratrochlear considerably enlarged and somewhat tender, left only slightly enlarged. Some comparative dullness for two inches to the right of sternum in first and second interspaces. No glandular enlargement detected in the abdomen. Besides the enlarged glands there were some other subcutaneous lumps, evidently not in the position of normal lymph glands. The largest are four about the size of a bean, one above and one to the outer side of each scapula. Heart: No apparent enlargement. A faint systolic bruit heard along left border of sternum. Lungs and pleuræ: At left base there was a small area of comparative dullness with diminished breath sounds and voice sounds. Abdomen: Liver somewhat enlarged; margin reached about one finger's-breadth below ninth costal cartilage. Spleen just palpable; its area of dullness considerably enlarged. No evidence of ascites detected.

Ophthalmoscopic examination: Both retinæ appear to be a brighter red than normal; edges of both discs blurred, especially that of left eye. No hæmorrhages detected. Wassermann reaction and blood culture give negative results.

Blood count: Red blood cells, 4,260,000; hæmoglobin, 78 per cent.; colour-index, 0·91; white cells, 10,10[illegible]. Differential count (per cent.): polymorph. neutrophils, 4; polymorph. eosinophils, 1·5; small mononuclears, 40; large, 49; cells transitional between the two last, 5·5. The small mononuclear cells were comparable in size to the small lymphocytes found in normal blood. The cytoplasm was, if anything, a little more in proportion to the nucleus, but in other respects such as appearance and staining properties they were indistinguishable from a normal small lymphocyte. The large mononuclear cells, on the other hand, showed certain differences from the usual large lymphocyte. In the first place they were sharply marked off in size, being of at least twice the circumference of the small mononuclears. (Cells of intermediate size were always counted separately and were found to be comparatively few; in most counts being not more than 1 per cent. of the whole, and never reaching above 5·5 per cent.) The nucleus of these large cells, although staining rather less deeply than that of the small cells, was not comparable in pallor to that of the large cells described by Sternberg as characteristic of leukosarcoma; neither was it vacuolated or honeycombed as in his description and no mitotic figures were seen. The cytoplasm was abundant, clear, and free from granules; it surrounded the nucleus on all sides, the radius of the cytoplasm being about equal to half that of the nucleus, which is placed nearly centrally. None of the mononuclear cells gave a positive oxidase reaction. The erythrocytes appeared normal in size, shape, and staining properties. No nucleated red cells seen.

FIG. 1.



*Progress of the Case.*—For the first week after admission the temperature was not raised, but subsequently it was always raised for some part of every successive week; at first only slightly and at irregular periods, but gradually tending to become higher without showing any definite type.

Throughout the whole period of his stay in hospital he seemed weak, drowsy, and disinclined to talk or move about. He would remain all day in bed without speaking a single word if left to himself, but he showed no lack of intelligence when questioned. All the time he was becoming progressively more weak and drowsy, though there were slight remissions. The discoloration of the face remained about the same for a month and then got much deeper, so that about the middle of the summer his face was nearly black. It then became gradually lighter and towards the end it was much less discoloured even than on admission. The general swelling of the face also diminished, but to a less extent, towards the end. The photograph (Fig. 1) was taken not long after admission and, therefore, does not show the intense discolouration which was reached about the middle of his stay. The tendency to ecchymosis on scratching the chest disappeared shortly after admission and never recurred. On the other hand, a mottled purple discoloration appeared on both shins on the rare occasions when he had his legs hanging down, and now and then the same rash appeared on his arms. The glands, after remaining about the same size for a couple of months, slowly began to get smaller, and at the time of his death there was not a quarter of the amount of glandular swelling that there had been on admission. The skin after a couple of months became tender to pressure and scratching the sole of the foot was particularly complained of. Tapping over the bones also produced much pain. By May hæmorrhages had appeared in both retinæ, and from that time onwards they were always detected when looked for. On April 23rd a gland was excised for the purpose of examination. It appeared to the naked eye of a mottled purple colour on section. Microscopically it was found that the ordinary lymph nodes had disappeared and the whole structure was infiltrated by cells which resembled large lymphocytes. These cells were not confined to the gland, but tended to infiltrate the surrounding tissues, including some muscle that was adherent. The liver and spleen became considerably bigger towards the middle of the summer, each reaching down to about the level of the umbilicus. They appeared to shrink a little in size during the last few weeks of life. Signs of considerable pleural and peritoneal effusion appeared towards the end.

Numerous blood counts were made. By April 20th the total number of leucocytes had sunk to 8600, and from this date up to the first week of September the total and differential count remained remarkably constant (the extreme figures being 8600 and 8000) with the lymphocytes almost precisely at 95 per cent. and the relative proportions of small and large not varying greatly from that of the first count. The erythrocytes fell gradually during the first two months to between two and three million and then remained at this level till September. The hæmoglobin followed the red cell count pretty closely. Nucleated red cells were never seen till September, and there was no alteration in size, shape, or staining properties. From the first week of September there was a rapid fall in both erythrocytes and leucocytes. The count on Sept. 25th was: R.B.C., 850,000; W.B.C., 2900; polymorphs, 25 per cent.; small monos., 13 per cent.; large monos., 62 per cent. The fall in the total number of leucocytes had thus taken place mainly at the expense of the small lymphocytes. Normoblasts were now present.

Post-mortem examination Oct. 2nd, 1925.

*External Appearances.*—Some wasting. Several small soft glands palpable in both posterior triangles of neck and in right groin. Also some deposits felt below the skin in several places—e.g., left forearm and back of neck; these are small white raised nodules, hard to the touch and not ulcerated. No apparent increase in lymphoid tissue at root of tongue.

*Chest.*—In the anterior mediastinum and along course of great vessels of neck there are many enlarged glands. None are very large, the maximum being $1\frac{1}{2} \times \frac{3}{4} \times \frac{3}{4}$ in. They are very soft, fairly discrete, and deep red on section. In a few of the glands are small white masses about $\frac{1}{4}$ in. across; these are very hard but not gritty, and readily separated from the surrounding gland tissue. It appeared as if the glandular mass was considerably smaller than it had been and was now replaced by œdematous fibrous tissue. Within the glands this change suggestive of shrinkage could be made out; there seemed to be a replacement of the soft hæmorrhagic tissue by dense white connective tissue, affecting first the periphery and spreading centripetally.

Pleura: Small hæmorrhages below the visceral pleura. Lungs: Œdema at both bases. Early broncho-pneumonia with patchy consolidation at the right base. Heart: Marked fatty degeneration of the muscle (tabby cat striation). Pericardium: Sero-fibrinous pericarditis with much blood-stained fluid. Abdomen: Peritoneal cavity contained about two pints of blood-stained fluid. Liver: Weight 70 oz., marked fatty degeneration. A few scattered nodules, dense white in colour, hard to the touch, and about $\frac{1}{4}$ in. in diameter; those on the surface being raised above the surrounding tissue. These nodules were sparsely scattered at intervals of four or more inches. Spleen: Weight 28 oz., deep red and soft. Contains scattered nodules similar to those seen in the liver. Capsule much thickened in parts. Kidneys: Together weigh 12 oz., very pale, especially the pyramids, which on this account stand out conspicuously from the cortex. Capsule strips readily and is not thickened. There are some hæmorrhages beneath the epithelium of the pelvis. Suprarenals: Some general œdema involving also the surrounding tissues. Glands: Many enlarged in the mesentery, along the lesser curvature of the stomach, and in the lumbar region. Bone marrow: Right femur four inches from tip of external condyle. Intensely red in colour. No apparent enlargement of medullary cavity.

*Microscopical Examination.*

Liver: Sections show aggregations of round cells in connective tissue surrounding portal spaces. These cells are large and mononuclear, and in every way resemble the large mononuclear cells of the blood, except that mitotic figures seem fairly common. A few of these cells are also seen in the sinusoids between columns of liver cells. The aggregations around the portal spaces in some places attain to such a size as to be visible to the naked eye, and in these larger masses there is a tendency to central necrosis. Repeated examinations for bacteria have given negative results. The liver cells show some fatty degeneration (Fig. 2).

FIG. 2.

Section of liver: showing invasion with large mononuclear cells which, in the lower right-hand corner, have become necrotic.

Spleen: The pulp shows evidence of congestion and there is well-marked perisplenitis of a chronic type. Malpighian corpuscles cannot be differentiated. Here and there are seen aggregations of large mononuclear cells comparable to those found in the liver and showing the same tendency to central necrosis where the mass is above a certain size. An occasional large mononuclear is seen in the sinusoids. No organisms found. Lymph glands: Replacement of the glandular tissue by aggregations of the same type of large mononuclear cell, but showing less tendency to central necrosis than in liver and spleen.

*Discussion.*

The most striking features of this case are: (1) The complete absence of any even temporary leucocytosis. (2) The very low total number of polymorphs. (3) The stability of the leucocyte count over a long period. (4) The character of the large mononuclear cells. (5) The fact that the glandular enlargement began in the right arm shortly after a septic wound of this extremity. (6) The subcutaneous deposits of mononuclear cells and the invasion of muscular tissue in the neighbourhood of glands. (7) The tendency to subcutaneous and submucous hæmorrhage and œdema.

In some respects this case corresponds to those described by Sternberg as leucosarcoma, but (*a*) in his cases the total leucocyte count was particularly high (up to 800,000); (*b*) the type of large mononuclear which he describes has a pale, vacuolated, and honeycombed nucleus with comparatively little cytoplasm, and mitosis is common in the blood; and (*c*) he particularly mentions that subcutaneous hæmorrhage or affection of the skin is very uncommon.

There seems to be here a possible connecting link between germ invasion, leukæmia, and neoplasm, which, in view of Gye's recent work, is not without significance.

# THE RATIONALE AND TECHNIQUE OF COMBINING OPERATION WITH RADIUM TREATMENT IN CANCER.

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IT is well recognised that radiation of a cancer increases the difficulties and risks of subsequent operation when undertaken some weeks later to remove the malignant growth. For instance, unexpected deaths have occurred after the removal of a cancerous cervix which has previously been radiated. The difficulty of operation is greatly increased by the amount of fibrous tissue encountered and by hæmorrhage which is not easy to control. These conditions are Nature's efforts to effect a cure, and surgical interference with them appear to be resented by the organism. Furthermore, efficient radiation induces a severe and prolonged state of shock and malaise in all patients, and especially in those whose vitality has already been lowered by disease, partly due to the absorption of products of cell destruction. When the shock of a severe operation is superadded the strain may prove too great for the patient's recuperative powers, and if death does not supervene at once the patient lingers on, fighting a losing battle against metastases, sepsis, and the effect of radiation, possibly lighted up by surgical interference, till the end comes.

Surgeons have from time to time advocated removal of fungating cancerous masses, as a palliative measure, when radical operation is out of the question on account of the extent of the disease. This procedure is justified when it adds to the comfort of the patient, but is an acknowledgment, if not of defeat, at least of abandoned hope of cure. A number of these patients are now treated with radium or X ray alone with fairly satisfactory results. Healing in these circumstances is necessarily very tedious, and much disabling scar tissue is formed in the process, because the patient has not only to cope with masses of malignant cells destroyed by radiation, but also to overcome the chronic septic condition.

The golden rule for successful treatment should be to put as little strain on the patient's recuperative power as possible, consistent with restoration to health. As far as the individual is concerned, not till a growth, or part of a growth, is removed is it finished with. This ablation is all to the patient's advantage and justifies a radical Halstead's operation for cancer of the breast, even though it be followed by great shock. Subsequent radiation as a prophylactic measure is also justified, though it, too, causes shock. The problem is different in inoperable cancer—i.e., one which cannot be removed completely and cured by operation alone, more particularly where it is only possible to get rid of part of the growth by cutting through malignant tissue, the remains of which are left in situ and can spread the disease. The following was such a case.

The patient, a woman aged 41, was admitted to Dr. Steevens' Hospital from the country with a fungating mass the size of a fist, situated in the right breast in a line with the anterior axillary fold. The tumour, an encephaloid carcinoma, bled when touched, was firmly adherent to the chest wall, and broken down in the centre, to a septic foul-smelling crater. There were some glands below and in the axilla; but none could be felt above the clavicle. The patient first noticed the lump in December, 1924. It broke down in June, 1925. The case was inoperable, in the sense that it would have been necessary to remove part of the chest wall in order to avoid disseminating the disease by cutting through malignant tissue and leaving a cancerous and septic area behind.

I was guided in my treatment of this patient by my experience in combined radium and operative treatment of what might be called redundant malignant tissue. Administering to a cancer an efficient radium treatment and operating some weeks later do not appeal to me for the reasons already cited. Radiation by inserting needles or tubes in the parts of dissemination immediately after radical operation is a rational procedure, but increases shock, though probably not to such an extent as when there is much malignant tissue to be acted on. But if a patient is radiated immediately after a partial removal of a growth by operation some of the malignant cells disturbed may escape into the circulation before they are efficiently treated. Also, one is certain to meet with a great deal of hæmorrhage which is not easy to stop, and this naturally increases the shock. I have treated, mainly with beta rays of radium, a number of very vascular fungating malignant growths, mostly on the skin, some projecting from mucous membranes as in the rectum, and in two or three days, or as soon as the treatment is finished, curetted away the redundant tissue till I reached the more or less healthy base. The procedure is surprisingly bloodless, as I give a greatly excessive dose to the malignant tissues which I intend to remove, so that the mass has become practically necrotic and inert when it is surgically dealt with. The redundant tissue, which is useful as a pin-cushion to hold radium needles, acts as a filter to cut off the beta rays from the base of the growth, so that the parts that remain after operation receive gamma ray treatment alone of such intensity as will destroy the malignant cells, but at the same time will not destroy the normal cells and connective tissue, which I depend upon to effect repair in the raw area that is left.

The advantage of this method of treatment over diathermy in the removal of such growths is that the latter produces a necrosis of everything for a certain depth, but beyond that depth has little influence on malignant cells. If the tumour described above were treated in this way necrosis of the ribs might follow, which would be a very undesirable after-effect. As this radium treatment is a local one, and as the greater part of the mass which is treated is removed immediately afterwards, its radiation cannot seriously effect the amount of shock from which the patient may subsequently suffer. As a matter of fact very little shock results from this procedure. When, however, the condition to be treated is such that it requires more than simple removal of a malignant mass, it is necessary to take into account other tissues which have to be disturbed in order to obtain the results required. In the above breast case I wished to deal efficiently with the base of the mass I was about to excise, and also to cover up the raw area left by a plastic operation. I was careful, therefore, not to radiate excessively before the operation the skin I intended to use for this purpose, nor did I think it advisable to treat areas which were suspicious and the paths of the dissemination of the disease before I performed the operation. In fact, I did not wish to run any risks from the constitutional disturbance which would be produced before operation by a prolonged treatment by radium of the glands in the axilla, or in any extension there might be above and below the clavicle, so as to minimise the amount of shock that would be present during any one period of the treatment, especially that following operation.

The actual procedure in this breast cancer was as follows.

At 1 P.M., on Oct. 24th, 1925, without an anæsthetic, I inserted 16 tubes, containing 91·4 mc. of radon divided evenly among them, into the cavity of the growth, and pushed them into the surrounding fungating mass. This caused a certain amount of hæmorrhage, but otherwise did not inconvenience the patient; a 2 mm. thickness of gauze had first been placed at the bottom of the cavity against the chest wall to prevent over exposure in the area which required a lethal cancer dose, but not an overdose. The overdose in the remaining part was immaterial, as I intended to remove it. At the same time two brass boxes containing radon capillaries were applied to the surface over the glands below the axilla as I intended to remove these glands with the superimposed skin. On Oct. 26th, 46 hours later, the fungating mass, still containing the radium tubes, the glands that had been radiated with the skin over them, and some glands further up the axilla and half the breast, including and beyond all the indurated portion were removed

without encroaching on any septic skin. The whole of the breast was not removed, as I expected that the skin brought together over the originally diseased area might not unite owing to the septic condition of the part, and the intensity of the radiation it had received, and I intended to use the remaining skin of the breast to cover this area at a later date. The 16 tubes, after being cleansed and sterilised and arranged in bandolier fashion, were pushed up into the axilla, being separated from the axillary vessels by 1 cm. of gauze and from the anterior axillary fold by three or four thicknesses of gauze, and left there for 24 hours. The skin incision was closed over the breast area, but a small gap remained just at the axilla where two or three stitches were not tied till the tubes had been removed from the axilla. I considered it important to treat the axilla, which had not been previously radiated, immediately it had been incised, so as to minimise the risk of dissemination from this area.

Although the patient stood the operation extremely well and did not appear to suffer from much shock I considered it wiser not to continue the radium treatment at once. On Nov. 6th the chest below the clavicle comprising an area of 14 by 2 cm. was treated by surface application for 12 hours, and the applicator was applied above the clavicle for 60 hours. On Nov. 23rd the area at the top of the incision where the skin had not been quite brought together was treated for 34 hours; a similar dose was given along and in front of the healed incision, and including the part of the breast that was not removed for 37 hours. Three days later the side of the chest behind the incision was radiated. The total amount of energy from radium used up in this case was:—

| | Mcd. |
|---|---|
| *Before Operation.* | |
| 16 tubes, 3 cm. long, 5 mm. external diameter, wall 1·75 mm. brass. Inserted into fungating mass. Area 6 by 5 cm. | 26·7 |
| Surface treatment glands, area 7 by 2 cm., distance 3 mm. brass screen | 5·3 |
| Treatment 46 hours, Oct. 24th to 26th, 1925. | |
| *At Operation.* | |
| 16 tubes as above, area 8 by 2 cm., inserted into operation wound axilla | 10·5 |
| Treatment 24 hours, Oct. 26th to 27th, 1925. | |
| *After Operation.* | |
| Surface treatment at 18 mm. screen and distance piece of felt +2 mm. brass— | |
| Below clavicle area 14 by 2 cm., 42 hours, Nov. 6th to 8th, 1925 | 28·1 |
| Above clavicle area 14 by 2 cm., 60 hours, Nov. 8th to 11th, 1925 | 26·9 |
| Over upper part of incision, area 9 by 9 cm., 34 hours, Nov. 23rd to 25th, 1925 | 22·6 |
| Over lower part of incision and breast in front of it, area 9 by 9 cm., 37 hours, Nov. 24th to 26th, 1925 | 22·5 |
| Anterior axillary fold, area 10 by 2 cm., 28 hours, Dec. 9th to 10th, 1925 | 18·7 |
| Surface beta ray treatment, area 2 by 3 cm. Thin rubber glove filter, distance 3 mm., over unhealed area to stimulate formation of epithelium, 36 hours, Nov. 16th to 17th, 1925 | 0·3 |
| Total | 182·9 |
| Equivalent to 24,400 millicurie-hours or milligramme-hours. | |

The above dose is calculated and measured by the destruction or loss of radium emanation (mcd.) during treatment. Radium emanation obtained from the Royal Dublin Society Radium Institute in glass radon capillaries and 53·93 mg. of radium element in six capillary metal cells have been used together indiscriminately. The loss of activity of radon is obtained from a table.[1] The loss from the element is taken as ¾ per cent. in mc. of the mg. of element present. 3 mcd. is equal to 400 mg., or mc. hours.

The patient was in Dr. Steevens' Hospital from Oct. 17th to Dec. 15th (62 days). When she left there was no sign of inflammation or thickening, and most of the operation scar had healed by first intention. A small area below the axilla and above the original site of the fungating mass, which had not been covered with skin at the operation still required dressing. She wrote twice since, on the last occasion at the end of February, stating she was quite well and able to do her house work. One of the most satisfactory results of the treatment is that the whole skin incision, which could be brought together at the operation, healed up at once without the least signs of recurrence or sepsis, in spite of the original septic condition of the breast, the malignant nature of the tumour, and the fact that the operation was incomplete, for the specimen revealed a gap at the bottom of the crater where the cancer had involved the chest wall. I advised this patient to return for a further prophylactic treatment in about two months, but she has not done so.

[1] Walter C. Stevenson: A Convenient Radium Emanation Table for Clinical Work, Archives of Radiology and Electrotherapy, March, 1916; Medical Press and Circular, April 19th, 1916.

It will be noticed that the radium treatment of the above patient was extended over a considerable period to avoid unduly taxing her strength at any one time. The operative interference was also limited to the removal of palpable growth or metastases. The procedure was dictated by the experience of a similar case a year before.

The patient on that occasion was 62 years old, had a growth for six years in the upper part of her right breast, with glands in the axilla and above the clavicle, and chest trouble. The growth had ulcerated through the skin in two places, where there was sepsis and an offensive odour, but there was no fungating mass. On April 29th, 1924, I inserted 12 steel needles 12 cm. long containing 10 cm. of radon each, in glass capillaries 2 cm. long, through the tumours and under the adjacent skin of the breast. These needles were in for 60 hours, but each needle was withdrawn 2 cm. at intervals, so that each intensely radiated six areas, or 72 in all. At the same time three tubes with walls of 1 mm. thickness of brass with extension wires screwed into one end of each tube were similarly inserted into the axilla for 60 hours, each tube being withdrawn into three different positions. The ulcerated area was treated by surface application on May 4th and 5th, 1924. On the last date, when a total dose of 90·6 mcd. had been given, I removed the breast and axillary glands, and succeeded in covering the raw area with skin. The patient was very prostrate for about a fortnight after the combined treatment. About the end of this period a great deal of pus formed under the skin, small areas of which sloughed. Undoubtedly, in her debilitated condition from cancer, sepsis, and pain, her skin, particularly where unprotected by masses of malignant tissue, was unable to stand the beta ray treatment which had been administered. Though the pus formation practically ceased and the ulcers were healing, she gradually lost ground and died with increased chest symptoms three months after treatment.

This patient was a hopeless case from the beginning on account of metastases in the thorax, but would have probably benefited more by a less drastic radium treatment with gamma rays alone, administered at intervals, and a more limited operation. One is handicapped in such a case by the fact that the prolonged treatment is not always possible for a country patient in a general hospital.

*Conclusions.*

Experience appears to show that when operation and radiation are combined in the treatment of cancer: 1. There is no advantage in giving a lethal cancer dose of radiation first and delaying operation more than a week, as further delay increases the difficulty of the operation and the shock. 2. Over-radiation of a cancerous mass which cannot be completely removed, followed immediately by its partial removal, lessens the shock, and the operative difficulties. 3. At the operation it is an advantage to bury radium tubes and needles in the incised area and in the paths of dissemination. 4. It is an advantage to radiate the whole operation and suspicious area about three weeks after operation when the incisions have soundly healed. 5. The patient's general condition is the best guide to the extent of the operation and the intervals of time at which different areas are to be efficiently radiated.

WIGAN INFIRMARY.—New X ray and sunlight departments were opened at Wigan Infirmary by Dr. Robert Knox, director of the electrical department of the London Cancer Hospital, on Nov. 16th. In the absence of the President of the institution, the Earl of Crawford, Mr. William Johnson, J.P., Chairman of the board of management, presided. Dr. Knox said that to get the best possible value from X ray examination it was essential that the radiographic outfit should be one of the highest standard. That was provided in the splendid equipment of the radiographic room. For the examination of injuries immediately after, and for observation, at a later date, of the progress of the condition and for the guidance of the orthopædic surgeons, the highest standard of radiographic work was demanded. Expert skill in interpretation was also essential, and the after-treatment of cases of injuries of bones and joints had been provided for in the light and massage department. Nothing in the scheme of the new department seemed to have been overlooked. Prior to the opening ceremony Dr. Knox was entertained to luncheon by the honorary medical staff of the infirmary, when Dr. E. H. Monks, J.P., honorary consulting surgeon to the institution, was in the chair.

# TREATMENT OF DIABETES IN CANADA AND THE UNITED STATES.

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A REVIEW of present theory and practice in the treatment of diabetes in Northern America may not be without value in showing fresh aspects of this interesting disease. No single scheme of treatment has been adopted as a standard, and the different methods employed illustrate differences of opinion as to the real nature of the disease. The most striking thing in diabetes is undoubtedly the loss of the power to deal with glucose. The main point at issue is whether insulin is required only for the metabolism of glucose, or whether it is required for the metabolism of fatty acid also, and possibly for other processes in the organism; and the essential conflict of opinion is over the relative importance attached to restriction of the glucose metabolism alone or to restriction of the total metabolism—total food intake and body-weight.

A brief discussion will be given of recent work, which shows that by scientific planning of the diet we can safely reduce the glucose metabolism far below the level attained by simple carbohydrate deprivation. For any given number of food calories required we can calculate the minimum amount of glucose that can be given without the formation of harmful waste products from incomplete combustion of the fat, and this is, in fact, the method by which the diet is usually planned in America. Within the limits set by the total calories and the necessity for a minimum quota of glucose, we can in addition devise diets of varying glucose content while maintaining the same calorific value. It is, therefore, possible to test the rival theories by noting the amount of insulin required to keep a stable diabetic patient sugar-free on diets designed to isolate such factors as variation in the total calories with constant glucose content, or variation in the glucose content with constant calories. It will be seen that the results obtained contradict the belief that diabetes is a disease of glucose metabolism alone.

I have been associated with Dr. F. M. Allen, and it is natural that a bias in his favour should appear. Allen's methods have undergone modification, but the principle of restriction of the total calories remains fundamental. The advent of insulin removed the necessity for the extreme degrees of undernutrition which were considered advisable in severe diabetes and which may often have actually reduced the tolerance. Starvation and emaciation are no longer practised, and Allen now stands in a middle position between rather widely divergent schools of treatment. It must be emphasised that whatever the differences in dietary regulation a normal blood-sugar and a sugar-free urine are regarded by all as essential end-results of treatment. Very little reference is made to insulin in this paper; it is assumed that insulin is given in the necessary dosage whenever these end-results cannot be obtained by an adequate diet alone. It will be convenient to discuss first the total food allowance and secondly the composition of the diet.

### *Total Food Allowance.*

Woodyatt [1] believes that the endocrine function of the pancreas has to do with the utilisation of glucose and nothing else. Allen [2] states that the most important factor governing the insulin requirement, with any ordinary plan of diet, is not the carbohydrate content but the total caloric content. In the Woodyatt scheme the total calories of the diet are determined by the quantity of glucose the patient can assimilate. The quantity of glucose a patient can assimilate is a highly speculative factor. It is affected by the state of nutrition and treatment and, except in total diabetes, by the amount of glucose administered. Glucose may be derived from all three elements in the diet. Carbohydrate produces roughly its own weight of glucose; protein produces 58 per cent. of its weight glucose and the equivalent of 46 per cent. of its weight of fatty acid; fat produces 10 per cent. of its weight glucose from its glycerol fraction and 90 per cent. fatty acid. Fat has the highest calorific power, but the need of carbohydrate for its complete combustion sets an upper limit to the amount that can be given; protein is an indispensable food. Within these limits it is possible to devise any number of diets with the same glucose content but very different caloric values. If diabetes were a disorder of glucose metabolism alone, we should naturally plan a diet containing the maximum number of calories compatible with the glucose tolerance. It is easy to test Woodyatt's hypothesis by giving a stable diabetic patient diets of the same glucose content but different caloric values and observing the insulin requirement. It is, however, the actual food metabolised with which we are concerned and not the food eaten.

Let us suppose that a patient has a glucose tolerance of 100 g. and a weight of 60 kilos. If a gramme of protein is given per kilo of body-weight, the largest diet possible will contain 52 g. carbohydrate, 60 g. protein, 134 g. fat, 1622 calories. The same amount of glucose would be contained in 66 g. carbohydrate, 60 g. protein, 504 calories, but on this allowance the patient would burn not only some of his own fat, which would affect the experiment very little, but some body protein in addition. This would yield extra sugar and the deductions would be false.

Experiments have been made by Allen [3] in which this fallacy is guarded against, and it has been definitely shown that on isoglucogenetic diets the insulin requirement is directly proportional to the total calories. Increase in calories causes increase in body-weight, and this is probably the essential cause of the increased insulin requirement. It is illustrated in the following case:—

| — | P., g. | F., g. | C., g. | Calories. | Insulin daily. | Weight in pounds. |
|---|---|---|---|---|---|---|
| March 18th–31st | 60 | 262 | 100 | 3000 | 40 | 113 |
| April 1st–3rd .. | 60 | 362 | 90 | 3860 | 40 | 114 |
| Same diet till— | | | | | | |
| June 1st–2nd .. | 60 | 362 | 90 | 3860 | 80 | 133 |

Restriction of the total calories has, therefore, been generally adopted. The privations of the war caused physiologists to devote more study to undernutrition, and the subject has been recently reviewed by Lusk.[4] If undernutrition is not carried to the prelethal stage its most striking result is a decrease in the basal metabolism. This is well exemplified in the torpor of anorexia nervosa. It is out of proportion to the loss of body-weight and seems to be a protective response of the body to starvation.

During Levanzin's fast the basal metabolism fell from 1432 at the start to 1002 on the twenty-first day. His metabolism thus produced 30 per cent. less heat than at the start, though he had lost only 16·7 per cent. of his body-weight. A group of athletic young men were taking 3200 to 3600 net calories a day. They were then placed on a diet of 1400 calories for three weeks without reducing their mental or physical activities. After the average weight had fallen 12 per cent. below its original level it was found that they were able to maintain this weight on a diet of 1950 calories, a little more than half of the amount originally required. There was a falling off in strength and vigour, but on account of their lower weights they were able to walk a mile with less expenditure of energy than at the beginning of the experiment.

There is thus a simple explanation for the benefits of undernutrition in diabetes. With the loss in body-weight and the decrease in metabolism the diabetic organism is able to support life on a lower plane of nutrition. A diet sufficient to maintain this level is within the tolerance of the pancreas, and there is, moreover, a gain in tolerance when the pancreas is relieved of the strain of constant hyperglycæmia. If the tolerance is very poor, insulin is needed in

addition to maintain a level of nutrition compatible with a full life. Allen [2] argues that undernutrition has a specific effect in diabetes apart from decreased metabolism and relief from hyperglycæmia.

The Toronto school [5] believes that the patient should be kept at 10 per cent. below his normal weight. Others use a calculated value for the basal metabolism in estimating the total calories. The usual method is described by Wilder.[6] The basal metabolism is calculated from the patient's height, ideal weight, age, and sex by the Dubois standards. If the actual basal calories are allowed for a hospital patient, and an additional 20 to 30 per cent. for a patient in a sedentary occupation, it is believed that the food intake is about 20 per cent. below the normal requirement. This undernutrition should lower the metabolic rate of the patient about 15 to 20 per cent. below that of an individual of like surface area, age, and sex on an unrestricted diet, and a constant weight should be maintained.

These methods are very simple and practical but they are much too inelastic. Many patients so treated are overfed and insulin is required by patients who would be happier without it on a lower plane of nutrition. The wide variations of weight in healthy people of the same height are well known, and there is no reason to believe that the normal weight of the diabetic is more standardised. In general we estimate the weight in health too high. The New York Life Insurance Company's figures [7] show that average weights at the age of 45 have a mortality 5 per cent. above the optimum rate, which is found at 20 lb. under the average weight. The ideal weight for a diabetic patient can only be found by observation of the effects of treatment. Joslin and Allen maintain him at the least weight at which he is able to do his work and "feel good." Many youthful patients need building up; the majority of older patients need reduction. Reduction is spaced over long periods by giving diets of 600 to 1000 calories with fairly liberal protein (60–100 g.) and carbohydrates (40 to 100 g.). Allen gives thyroid quite freely in these cases and considers that there is no danger of aggravation of the diabetes if toxic manifestations are avoided. There is no loss of body nitrogen and the diets can be made satisfying. Obese patients often appear to have a severe diabetes, the blood-sugar is over 400 mg. per cent., and ketonuria may be present. When the weight has been reduced the tolerance is found to be quite high and a diet liberal in carbohydrate can be given.

The weight is the most important single factor in diabetes. A physician suffering from diabetes, when asked what diet he was taking, said, "I keep my weight at about 128 lb." The weight is kept constant at the optimum level, the calories vary somewhat with the degree of activity. In experiments where dogs were fasted and exercised, Anderson and Lusk [8] found that the basal metabolism was determined by the condition of the body and was not affected by a large influx of food on the day previous. Similarly, extra food used by the diabetic in exercise and not stored in the organism rarely causes much increase in insulin requirement. Diabetics need not give up arduous occupations on account of the disease, and the majority are benefited by exercise.

In a few cases, however, the tolerance is so poor and the transitions from hyper- to hypo-glycæmia are so sudden and alarming, that the patient can only be balanced on a low diet which is insufficient for an active life. Fortitude is needed in the handling of these cases of "total" diabetes, especially when they occur in children. They should never be given up and allowed to spill sugar in the urine. The insulin may have to be given as often as six times in the 24 hours, and temporary undernutrition may be advisable. It is usually most convenient to keep the carbohydrate low, while a high proportion of fat in the diet seems to buffer the organism against insulin shock. With care the tolerance generally improves markedly and a more natural life can be resumed.

A rather long section has been devoted to the total food intake. It is not disproportionate, because the weight and the total calories are the most important factors in the disease. Diabetes should not be treated by simple carbohydrate restriction, however simple it may seem. The weight and the total calories should be reduced, and though carbohydrate restriction is of prime importance, restriction of fat is also necessary in the obese patient on account of its great calorific power.

*Diet Composition.*

The so-called Shaffer ratio has very greatly influenced methods of composing diabetic diets in America. It is well known that fat is incompletely metabolised in carbohydrate starvation—"the fats are burned in the fire of the carbohydrates." On the basis of experiments in vitro and metabolism studies on patients, Shaffer [9] believes that two molecules of fatty acid can be completely burned during the oxidation of one molecule of glucose. In practice ketonuria appears when the proportion of fatty acid metabolised exceeds one molecule for every molecule of glucose on account of unequal distribution of the metabolites in the organism, but no severe ketosis develops until the proportion exceeds two molecules of fatty acid to one of glucose. We have stated above that while carbohydrate yields only glucose in the organism, protein and fat yield definite amounts of glucose and fatty acid. For a given number of calories it is therefore possible to calculate a diet containing the maximum amount of fatty acid and the minimum of glucose. From the equimolecular ratio (fatty acid molecules : glucose molecules = 1) Woodyatt [1] has devised the equation

$$F. = 2\,C. + \tfrac{1}{2}\,P.$$

—i.e., the weight of fat may equal twice the weight of carbohydrate, plus half the weight of protein. From the higher ratio (fatty acid molecules : glucose molecules = 2) Wilder [6] has devised the equation

$$F. = 4\,C. + 1{\cdot}4\,P.$$

The Woodyatt formula is more popular, for the Wilder formula gives a dangerously high proportion of fat. Insulin patients may rapidly develop acidosis as a result of infections or indiscretions, and the liability is greater when the patient is constantly on the threshold of ketosis.

The amount of protein is usually determined arbitrarily. Woodyatt gives 1 g. per kilo body-weight; Wilder, and Newburgh and Marsh [10] give ¾ g. There is a certain amount of evidence that protein is harmful in diabetes, though Allen absolutely denies this. The Sage investigators [11] and workers at the Mayo Clinic reported their highest D : N ratios during periods of high protein feeding. Wilder and co-workers found that the same dose of insulin, given to a diabetic patient at one period when the diet contained a high proportion of protein, caused much less reduction of glycosuria than it did at another when the protein was largely replaced by carbohydrate, the caloric and total glucose balance of the diet being kept the same. McCann,[12] therefore, gives the minimum amount of protein with which it is possible to keep the patient in nitrogenous equilibrium. Dr. R. R. Hannon tells me that with patients on diets of basal calories plus 10 per cent. (1800 calories) composed on the Woodyatt formula the nitrogen metabolism can be reduced to 2 to 3 g. per day; the sugar is easier to control, but the patients feel weak on so little protein. Allen has published experiments where the replacement of protein by equivalent amounts of carbohydrate has *increased* the insulin dosage, and a deleterious influence from protein is far from certain. Protein is more satisfying and it produces a greater sense of well-being than other foods, and it should not be needlessly restricted.

However the proportions of protein and carbohydrate are manipulated, the real aim in using the Shaffer ratio is to give as little glucose-forming food as possible. On Wilder's scale a man 5 ft. 10 in.

in height and 140 lb. in weight would require a diet of 2100 calories, which would be furnished as 45 P., 33 C., and 199 F. The Woodyatt ratio would allow 60 P., 72 C., and 174 F. A normal individual of the same size would take 120 P., 500 C., and 60 F. (3000 calories). The first difference from the normal is the decrease in total calories, the second is the disproportionate decrease in protein and carbohydrate and the increase in fat. It is impossible to construct pleasant diets when so many calories are derived from fat, and as the insulin dosage is governed by the total calories a very high proportion of fat is not such a desideratum. It is still necessary to reduce the carbohydrate and protein intake, just as we eliminate sugar and all concentrated carbohydrates from the diet, for these foods cause an immediate rise in the blood-sugar. But fat has an effect, less obvious and immediate, on the insulin dosage, and experience shows that diets composed on the above formulæ may finally call for as much insulin as isocaloric diets with more carbohydrate and protein. The ingestion of fat has little immediate effect on the blood-sugar, but when there is a high proportion of fat in the diet the blood-sugar may slowly rise for some months even though weight is not gained, and it is not till the end of this period of stabilisation that the real insulin requirement is known.

Joslin and Allen, therefore, give rather more liberal allowances of protein and carbohydrate than are suggested by the Shaffer ratio. "In average cases comfort, strength, and convenience are served by allowing in the neighbourhood of 100 g. carbohydrate and 100 g. protein daily, and any excessive insulin dosage is avoided by restriction of fat and total calories."[3] These diets certainly entail a higher initial insulin dosage than an isocaloric diet containing more fat, but it is rarely much higher in the long run. It may be necessary to follow patients over rather long periods to see the full effect of fat and total calories on the insulin requirement—often loosely called a loss of tolerance. These points are illustrated by data from Dr. Allen's cases which have been collected by Dr. Garfield G. Duncan.

**Of 64 insulin patients followed for two years 39 showed a decreasing insulin requirement, two discontinuing its use, eight showed an increase, and 17 were unchanged since discharge. Of the eight taking more insulin, four were on high fat diets, three showed a considerable gain in weight, and the remaining patient had received a diet increase from 1000 to 2400 calories.**

**Case 1940 may be reported in greater detail, as the patient was employed in hospital and treated under ideal conditions; there were no intercurrent infections and the weight was kept at 108 to 110 lb. throughout. A diet of 70 g. protein, 60 g. carbohydrate, and 1600 calories, with 60 units of insulin daily, controlled the diabetes from Oct. 6th to Oct. 19th, 1924. Carbohydrate and protein were then reduced to 30–30, the total calories being unchanged. The insulin was reduced to 14 units with moderate hyperglycæmia but no glycosuria. To keep the weight constant and thus exclude any influence of weight on insulin requirement, fat was increased on Nov. 30th to bring the total calories to 1800. There was a gradual increase in the insulin till he was taking 46 units a day. On March 1st, 1925, the protein was increased 10 g. with no change in total calories, the necessary reduction being made in fat. On March 6th he had a hypoglycæmic reaction and the insulin was reduced to 42 units. Gradual increases were then made in protein and carbohydrate with no change in total calories, until on August 14th he was taking 60 P., 60 C., and 1800 calories. Insulin was further reduced to 40 units daily and he remained balanced on this régime. Thus when time was given for stabilisation on isocaloric diets, 60 P. and 60 C. actually required a little less insulin than 30—30 and higher fat.**

It is clear that the insulin dosage depends on the total food intake and that fat may ultimately have almost as much influence as carbohydrate. In practice it is necessary to restrict the carbohydrate because of its immediate effect on the blood-sugar, but there is no advantage in reducing it to the lowest possible figure.

The idea of high carbohydrate diets has been pushed to an extreme by Sansum.[13] Whereas the usual diabetic diet contains 2 to 2·5 g. of fat to every gramme of carbohydrate, Sansum's diets contain adequate protein and 2 to 2·5 g. of carbohydrate to every gramme of fat. The insulin requirement is usually increased, but to a far less extent than might have been anticipated. One case is reported in full.

**On a diet containing 200 g. of fat this patient gradually lost tolerance till he needed 30 units of insulin daily. When the fat in the diet was reduced to 117 g. and replaced by an isocaloric amount of carbohydrate, so that he was taking 278 g. of carbohydrate a day, the insulin requirement at once increased to 112 units. It then slowly declined, and at the end of some months he needed only 34 units per day. Intercurrent infection cannot be excluded as Sansum does not mention this possibility.**

He concludes that on isocaloric diets the insulin requirement increases as the carbohydrate is raised, but not in proportion to the glucose as was formerly believed. Calorie for calorie, glucose requires more insulin than fat, but gramme for gramme it requires less. Successive diets and dosage from another patient were—

| C., g. | P., g. | F., g. | Calories. | Insulin. |
|---|---|---|---|---|
| 77 | 65 | 182 | 2206 | 68 |
| 179 | 82 | 85 | 1809 | 73 |

These carbohydrate-rich diets are more palatable and the patients feel stronger and are less tempted to break diet. Sansum's reported cases seem to have been mild. In the severe forms of the disease such large amounts of carbohydrate produce excessive fluctuations in the blood-sugar and are quite inadvisable.

Interesting work has been done on artificial foodstuffs. It is probable that any food, just because it is a food, must ipso facto cause a demand for insulin. Certain of these substitutes, such as glycerol, lævulose, caramel, and hexose-phosphates, are known to produce glucose in the body and need not be considered further. Rabinowitch[14] has recently experimented with dihydroxyacetone ($C_3H_6O_3$), which polymerises into glucose ($C_6H_{12}O_6$). In short experiments it causes less hyperglycæmia than an equivalent amount of glucose and seems to accelerate the metabolism of carbohydrate, but there is not evidence that it has any advantage over longer periods.

Kahn[15] in 1923 introduced an artificial fat, intarvin. It is the glycerol fat of margaric acid ($C_{16}H_{33}COOH$), and its importance is that it contains an odd number of carbon atoms. The ordinary fats we eat contain an even number of carbon atoms. In the body fats are oxidised at the $\beta$ carbon atom, losing two carbon atoms at a time

$$\overset{\beta\quad\alpha}{(R.CH_2.CH_2.COOH} \longrightarrow R.CO.CH_2.COOH \longrightarrow R.COOH + CH_3.COOH).$$

All the common food fats thus finally descend to the four carbon atom stage of butyric acid ($CH_3.CH_2.CH_2.COOH$). In the absence of carbohydrate metabolism, as in starvation or diabetes, the oxidation of this acid stops at aceto-acetic acid ($CH_3.CO.CH_2.COOH$) and ketosis occurs. When intarvin is given no such ketosis can arise. Nevertheless, although intarvin can be completely burned in normal metabolism, it produces an acidosis in the absence of carbohydrate metabolism. The fatty acid is again oxidised two carbon atoms at a time till it comes to the three carbon stage of propionic acid ($CH_3.CH_2.COOH$). Oxidation then stops at the derivatives of this acid, which are pyruvic acid ($CH_3.CO.COOH$) and lactic acid ($CH_3.CHOH.COOH$), and these acids are excreted in the urine. Intarvin is so nauseous that it is difficult to eat it for long periods, and we are not well informed as to the degree of this failure of oxidation or the possibility of a pyruvic acid acidosis, though it is suggested that the $CO_2$-combining power of the blood may be diminished. It is an extremely valuable substance for studies of the intermediary metabolism and its possibilities have not yet been fully explored.

Such studies might modify present-day views of ketogenesis.

This description of intarvin is based on Lundin's [16] experiments. Keefer's [17] tables likewise show very little decline in organic acid excretion when intarvin is substituted for ordinary fat.

*Conclusion.*

It has been the object of this paper to reveal the point of cleavage between two widely different interpretations of the disease diabetes. For Woodyatt diabetes is a disease of glucose metabolism understood in its proper sense and only the metabolism of glucose asks for insulin. For Allen diabetes is a disease of total metabolism, and all foodstuffs, whether of the nature of glucose or fatty acid, cause a demand for insulin both in their catabolism and anabolism. This suggests that all foodstuffs pass through a final common stage where insulin is demanded. The diffusion of insulin through all the tissues, and the dependence of insulin dosage on the body-weight and the total food intake, make it appear most likely that insulin is necessary, not merely for the metabolism of glucose, but for the process of metabolism itself.

*References.*

1. Woodyatt, R. T.: Diet Adjustment in Diabetes, Arch. Int. Med., August, 1921, xxviii., 125–141.
2. Allen, F. M.: Influence of Fat and Total Calories on the Insulin Requirement, Jour. Metabolic Research, January, 1923, iii., 61–176.

*References (continued).*

3. Allen, F. M.: Dietetic Management of Diabetes, Amer. Jour. Med. Science, April, 1924, clxvii., 554–570.
4. Lusk, G.: Physiological Effects of Undernutrition, Phys. Rev., October, 1921, i., 523–552.
5. Campbell, W. R., and Macleod, J. J. R.: Insulin, Medicine, August, 1924, iii., 195–308.
6. Wilder, R. M.: Optimal Food Mixtures for Diabetic Patients, Jour. Amer. Med. Assoc., June 17th, 1922, lxxviii., 1878–1884.
7. Fisk, E. L.: Preventable Diseases of Adult Life, New York State Jour. Med., December, 1921, xxi., 459–466.
8. Anderson, R. J., and Lusk, G.: Animal Calorimetry, Jour. Biol. Chem., December, 1917, xxxii., 421.
9. Shaffer, P. A.: Antiketogenesis: Its Mechanism and Significance, Medicine, November, 1923, ii., 375–404.
10. Newburgh, L. H., and Marsh, P. L.: Arch. Int. Med., December, 1920, xxvi., 647–662; the Use of a High Fat Diet in the Treatment of Diabetes Mellitus.
11. Dubois, E. F.: Basal Metabolism in Health and Disease, 1924, p. 212.
12. McCann, W. S., et al.: Studies of Diabetes Mellitus, Arch. Int. Med., August, 1923, xxxii., 226–258.
13. Sansum, W. D., et al.: High Carbohydrate Diets in Diabetes Mellitus, Jour. Amer. Med. Assoc., Jan. 16th, 1926, lxxxvi., 178–181.
14. Rabinowitch, I. M.: Blood-sugar Time Curves following the Ingestion of Dihydroxyacetone, Jour. Biol. Chem., August, 1925, lxv., 55–58.
15. Kahn, M.: Odd Carbon Atom Fat in the Treatment of Diabetic Ketosis, Amer. Jour. Med. Science, December, 1923, clxvi., 826–833.
16. Lundin, H.: Catabolism of Odd in Comparison with Even Carbon Atom Fatty Acids in Man, Jour. Metabolic Research, August, 1923, iv., 151–176.
17. Keefer, C. S., et al.: Use of Intarvin Fat in Diabetes Mellitus, Bull. Johns Hopkins Hosp., September, 1924, xxxv., 265–270.

# Clinical and Laboratory Notes.

## A CASE OF DOUBLE INTESTINAL OBSTRUCTION.

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A Sudanese woman, aged 50, was admitted to Makwar Civil Hospital with a history of three days' severe abdominal pain. During this period she had not vomited nor had her bowels moved. The woman was moribund; her breath smelt of acetone, and there was marked abdominal distension. The following were the findings at an autopsy two hours after admission:

Coils of distended small intestine and a very distended cæcum and ascending colon were displayed on opening the abdomen. On further examination the terminal six inches of the ileum were found to be collapsed, as complete obstruction had been produced by a tight fibrous band which passed from the posterior abdominal wall across the gut to the mesentery. Some adhesions were also present in the region of the duodeno-jejunal flexure and a traction diverticulum of the jejunum had resulted. The cause of obstruction in the large intestine was found to be an annular growth of the hepatic flexure which completely occluded the colon.

A report on this tumour, by Major T. N. Whitehead, described it as a columnar-celled carcinoma.

There appear to be three points of interest in this case: (1) The absence of vomiting, associated with a tightly contracted ileo-cæcal sphincter. (2) The lesson that blind cæcostomy would have been useless. (3) The occurrence of intestinal carcinoma in a person living a very primitive life on a diet unaffected by modern methods of food preservation or adulteration.

## AN UNUSUAL CASE OF REMOVAL OF THE COLON

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THE following case seems sufficiently uncommon to justify its being recorded.

The patient, an unmarried woman of 50, was admitted to hospital in a state of profound collapse. She had been seized with agonising pain a few hours previously, quickly followed by vomiting and collapse. A hypodermic injection of morphine was given, and she was taken at once to hospital, where resuscitation measures were employed.

On examination a tumour was found extending nearly up to the umbilicus; this was thought to be a twisted ovarian cyst. The patient was very thin and gave a history of long-standing attacks of pain, constipation, and frequent vomiting.

On recovery from the severe collapse the abdomen was opened under spinal analgesia and a large black mass immediately seen. Examination of the pelvis showed a normal uterus and normal appendages. The small intestine was seen to pass into the tumour, which was tethered to the posterior abdominal wall by a stout pedicle which was tightly compressed by a band which could be readily felt. Emerging from the black mass was large intestine which proved to be the sigmoid colon.

After dividing the constriction surrounding the pedicle the state of affairs became clear. The bowel, from the last six inches of the ileum to the termination of the descending colon, possessed a very long mesentery, which had permitted strangulation of the entire segment of intestine by a band originating from the healthy colon below the strangled segment. This band probably arose from an appendix epiploica, and its ultimate attachment could not be made out.

As it was certain the injured intestine was beyond recovery there was no choice as to procedure. Accordingly the entire segment of intestine was resected, the ends closed, and the ileum implanted into the sigmoid by lateral anastomosis. The operation was easy owing to the long mesentery, which did away with the need to mobilise the colon, and to the ready access to the blood-vessels in the mesentery.

The patient's condition was critical, and had it not been for the spinal analgesia it is thought she would have succumbed. She remained in hospital eight weeks, during most of which time diarrhœa was extremely troublesome. This cleared up and convalescence was uneventful thereafter.

The operation was carried out in September of 1924. The patient is now an active and well-nourished looking woman in striking contrast to her previous condition.

## TWO CASES OF SUICIDAL CUT-THROAT.

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IN cases of death from wounding, medical evidence frequently becomes of paramount importance in deciding whether the wounds were of homicidal, suicidal, or accidental nature, for it often happens that no evidence is available other than that gained from an examination of the body and the locus. In view of the responsibility placed upon the medical examiner, it is desirable to record cases in which the

injuries of the victim are of an unusual or unexpected nature, and I think it worth while to report the two following cases of suicidal cut-throat which present widely different characters.

CASE 1.—An Austrian subject, 55 years of age, was discovered lying on the floor of his room with a razor by his side. A letter was found stating his intention to take his own life because of ill-health and poverty. The deceased was right handed.

On examination the only injury found was a superficial wound one and three-quarter inches long on the right side of the neck behind the level of the sternomastoid muscle and about the position of its lower third. The wound had a clean-cut sliced appearance and was directed from above downwards and forwards. It passed through the skin and subcutaneous tissues and incised the wall of the external jugular vein forming a small slit a quarter of an inch long, just above the omohyoid muscle. There was no effusion of blood into the tissues, nor was there any other sign of violence. A few bubbles of air were found in the right auricle of the heart but nothing suggestive of the usual frothy appearance of air embolism. There was no air in the ventricle nor in the pulmonary artery. There was a considerable amount of blood in the heart and vessels, and the condition of the body did not suggest death from hæmorrhage. Both lungs showed advanced tuberculosis and the kidneys subacute interstitial nephritis.

The case has a certain medico-legal interest. In the first place the selection of a site behind the sternomastoid is very unusual, as is the position of the wound on the right side in a right-handed man. The superficial nature of the wound is also remarkable as it would scarcely have been imagined that a person intent on self-destruction would have satisfied himself with such a superficial incision. Death was no doubt partly due to hæmorrhage, partly to embarrassment of the heart produced by the entry of a few bubbles of air.

CASE 2.—An adult male Egyptian was seen to cut his throat in the street, after which he staggered along for about 50 yards and fell dead. On examination seven transverse wounds of the throat were found. These were all superficial and separate on the right side of the neck but joined together into one deep incision on passing to the left. Three of them, deeper than the others, started behind the level of the right sternomastoid; the other four, which were lower down and much more superficial, commenced midway between the sternomastoid and the middle line. They all passed almost horizontally across the throat and ended in a jagged incision on the anterior margin of the left sternomastoid.

Considerable damage was done to the deeper tissues of the neck and in the cartilaginous structures four well-defined incisions were observed. The highest of these passed horizontally through the thyroid cartilage and completely divided the larynx. The second passed completely through the larynx between the thyroid and cricoid cartilages. The third passed through the middle of the cricoid in the same horizontal plane as the others. The fourth passed through the lower part of the cricoid in front, but sloped downwards at an acute angle and reached the upper rings of the trachea posteriorly. This incision cut the left common carotid artery and the left internal jugular vein. There was also a superficial cut on the right wing of the thyroid cartilage which could be produced only by a cut commencing on the right and indicated that the victim was left handed.

Other structures divided included the thyroid gland in two places, the superior thyroid artery and the cricothyroid branch, and the sternohyoid, sternothyroid and omohyoid muscles, while the sternomastoid muscles on both sides were severely injured.

These two cases illustrate vividly the extreme difference which may be found in suicidal wounds. In the first the injury was of such slight extent and was in such an extraordinary position that the suggestion of suicide might not arise, while the second shows such excessive violence that it might readily be assumed that the case was one of murder. No doctor experienced in medico-legal work is likely to make a statement that such injuries were certainly self-inflicted or otherwise, without more evidence than is forthcoming from the examination of the injuries alone, but there is a tendency for medical men of less experience in these matters to be more dogmatic, and I trust that the publication of cases similar to the above may induce caution in giving a definite opinion as to whether a given wound is of a suicidal, homicidal, or accidental nature.

# Medical Societies.

## ROYAL SOCIETY OF MEDICINE.

### SECTION OF MEDICINE.

DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF COLITIS.

A MEETING of this Section was held on Nov. 23rd, when Dr. HUGH THURSFIELD, the President, took the chair, and Dr. ARTHUR HURST read a paper on this subject, which appears on p. 1151 of this issue of THE LANCET.

In the discussion which followed, the PRESIDENT said that in many years' experience he had never heard such a sane and clear address on a difficult subject. He agreed that many physicians had never seen what happened in a case of colitis, because they did not use the sigmoidoscope. He would extend Dr. Hurst's remarks on the bacteriology of intestinal diseases so as to include practically all intestinal infections, with the exception of such specific conditions as typhoid. Bacteriologists, radiologists, and clinicians appeared to have lost their heads on this subject during the last few years, and his hope was that Dr. Hurst's address would do much to bring the profession back to its moorings. With regard to the use of antidysenteric serum, for some years he had noted a group of infants who, particularly in the summer and autumn, had very violent attacks of diarrhœa, with high fever; several years ago he had concluded that these attacks were probably dysenteric, and in his ward at the Children's Hospital antidysenteric serum was at once given to cases showing these symptoms. The bacteriology was investigated afterwards, and in a fair proportion some types of dysenteric organisms were isolated. He was sure this course had saved the lives of many infants.

Dr. WILFRID EDGECOMBE thought that the main reason why Dr. Hurst had been able to be so precise in his generalisations was that he had long used the sigmoidoscope as a routine. It should no longer be regarded as an instrument for the surgeon alone. Referring to so-called muco-membranous colitis, Dr. Edgecombe agreed that there was no evidence of a true inflammation of the colon. "Colonic mucorrhœa" would better describe the condition, for it was purely a secretory neurosis, causing an excessive outpouring of mucus, to the accompaniment of colicky spasms; it was more common in psychasthenics than in neurasthenics. In comparing it with asthma Dr. Hurst had been very apt. Sometimes the mucous casts were very large, but usually there was no membrane; a few epithelial cells were present and some leucocytes, but practically never pus. Normal denizens of the alimentary tract were very numerous in these casts. Infection, he thought, was only secondary in this condition, but probably some intestinal toxæmia followed the retention and decomposition of the large collections of foul-smelling mucus. The effect of this on the nervous system made the patient worse. The subjects of colonic mucorrhœa were querulous individuals whose attention was focused on their abdomen; they had a muddy complexion and lustreless skin. They were constipated, and usually had run the gamut of aperients, which acted as irritants and perpetuated the excessive secretion of mucus, Nature's answer to the irritation. The attacks of colicky pain were due to a local spasm in the bowel. Many of these patients had visceroptosis, and presented the signs of what Dr. Robert Hutchison called "the chronic abdomen." Some had had the appendix removed, but without mitigation of the symptoms. He differed from Dr. Hurst about lavage of the colon for these cases; he thought it was good treatment. Every case demanded consideration of: (1) the local abdominal condition, (2) the general somatic neurasthenia, and (3) the mental condition, which was usually at the bottom of the whole trouble. He stopped aperients

and put patients back on to ordinary diet excepting fibrous vegetables. Usually they had become diet-faddists. Colonic lavage was done on alternate days, the fluid used being the equivalent of normal saline, made isotonic with the blood, and heated to 102° F. Forty ounces of this was allowed to enter the rectum at low pressure—i.e., from a height of 18 inches. After two or three applications large quantities of mucus came down, which had probably been clinging to the intestinal wall. Douches caused a speedy improvement in the patient. A good diet was given and massage and exercise ordered; to deal with the mental distortion it was necessary to persuade the patient that the secretion of mucus was normal and that there were better objects of interest than abdominal symptoms and evacuations. Among drugs he found most benefit from bromide, belladonna, and valerian; of the last named he used not less than a drachm of the ammoniated tincture. These drugs were very beneficial in moderately severe cases. Some of the serious cases seemed quite hopeless, and drifted into a state of hypochondriasis, and might even end in a mental institution.

Prof. L. S. DUDGEON commented on the frequency with which radiologists diagnosed colitis on the X ray picture. Evidence in favour of colitis was the discharge of leucocytes, pus, and epithelial cells from the rectum. Manson-Bahr and others had shown that when ulcers were seen with the sigmoidoscope, scrapings might reveal the organism when it had not been found by other means. He agreed with what Dr. Hurst had said about the bacteriology of the fæces. The fæcal flora varied considerably in healthy people according to the diet they happened to be taking. Extraordinary results were seen to follow gross dietetic errors. Very often a diagnosis of colitis was made on the strength of such unusual flora, partly induced, perhaps, by the use of various purgatives. He considered that ulcerative colitis could be put into three groups: (1) amœbic; (2) those due to the Shiga and Flexner group of organisms; and (3) those in which no Shiga or Flexner organisms could be found, an ulcerative colitis showing ulcers of the colon like those of bacillary dysentery. He considered that only two organisms could be regarded as abnormal; they were found in a certain number of cases. One was the *B. coli hæmolyticus;* the other, the *B. mucosus capsulatus.* With regard to the first of these, it was not a question of finding the organism once, but of finding it repeatedly in a patient who was passing blood and pus per rectum and who had ulcerative colitis. In two such patients he had seen very considerable benefit follow vaccine treatment, but only in two. The *B. capsulatus* frequently occurred in large numbers in abnormal conditions of the colon associated with ulceration. He thought that streptococcal invasion had nothing to do with ulcerative colitis.

Speaking of polypoid conditions of the colon, Prof. Dudgeon recognised three forms—true carcinoma of the colon, which caused polypoid growths; genuine adenomata of the bowel, which might or might not be associated with carcinoma; and the form met with in true chronic dysentery and ulcerative colitis—polypoid masses composed of granulation tissue and perhaps covered with mucous membrane. Only two kinds of treatment seemed good—diet and absolute rest. He could not understand there being any value in antiserum treatment of these cases, although admittedly Dr. Hurst had quoted cases in which the patient had markedly improved after it was given. He had never seen it do good in chronic bacillary dysentery, and he had no use for vaccine treatment in ulcerative colitis.

Dr. J. A. RYLE said that he had noticed much benefit from the use of serum and inspection with the sigmoidoscope in the kind of cases being discussed. Patients who had been making no progress for months—some for a year or two—had their symptoms immediately relieved and the appearance of the mucous membrane restored by the use of serum. One female patient, with advanced ulceration of the colon, had been very anæmic and ill, and weighed only 6 st. She had been treated in this way, and now weighed 10 st. and had never felt better. He had not seen the serious condition, polyposis of the colon, in any case being treated with serum, but it had been observed in two cases which had not had serum treatment. He maintained that amœbic ulceration could be diagnosed with certainty by using the sigmoidoscope, sometimes when negative reports came from the laboratory.

Dr. ADOLPHE ABRAHAMS spoke of the variety of conditions sometimes classed as colitis. He remembered cases in which rectal crises, carcinoma, pelvic tumours pressing on the bowel, and abdominal aneurysm had been diagnosed as colitis, simply because there was an abnormal quantity of mucus coming from the bowel. He agreed that mucomembranous colitis was a very definite entity, and one that called for careful consideration and treatment. It was admittedly a neurosis, especially of bowel mechanisms. London practitioners were a good deal debarred from spa treatment for such cases, but they could largely make up for this by using olive oil enemata and belladonna, the latter pushed to the toleration point.

Dr. PARKES WEBER asked whether the polyposis developing in ulcerative colitis was identical with that which followed amœbic or bacillary dysentery. He believed that cases of colica mucosa were now rare, and he regarded them as the result of an abnormal reaction which was found only in certain people. Everybody who indulged in dietary vagaries and neglected to take exercise was subject to abnormalities in bowel conditions and fæces. Muscular exertion seemed to improve the tone and motility of the whole bowel.

Dr. RENE WYBAUW spoke of having often seen the condition known as mucous colitis benefited reflexly by the successful treatment of cardiac irregularities.

Dr. HURST, in reply, expressed his disappointment that no surgeon had participated in the discussion. Medical treatment was satisfactory enough to enable him to say that surgery was seldom necessary. Of the 19 cases he had attended since the war only one died, and she might have died in any case as she had very severe broncho-pneumonia. None of the patients had died of the colitis, nor of indirect results from it, and 17 were still well. As to the treatment of mucomembranous colitis, he agreed with Dr. Edgecombe, but at one time the Plombières treatment had been so commonly used that he had seen it cause colitis when not previously present. Admittedly olive oil enemata were sometimes useful, but the olive oil did not dissolve the fæces. Experimentally, fæces had been placed in three test-tubes and covered with olive oil, water, and liquid paraffin respectively. At the end of 24 hours the fæces in the olive oil were even harder than before; water dissolved them well, and paraffin made a useful difference. Abdominal ptosis he did not consider important; in a series of quite healthy medical students he had found all sorts of abnormalities of position, the man whose viscera were lowest being a first-class forward in Rugby football.

## SECTION OF ORTHOPÆDICS.

### EXHIBITION OF CASES AND SPECIMENS.

A CLINICAL meeting of this Section took place recently at the Middlesex Hospital, the chair being occupied by Dr. GORDON PUGH, the President.

*Rickets with Deformity of Femora.*

Mr. E. T. BAILEY demonstrated the case of a male child, aged 1 year 10 months, the subject of rickets, who had an unusual bilateral deformity of the femur. There was a backward curvature of the lower end of the femur, immediately above the epiphysis, of a type which was unusual. The child was fed at the breast for only two weeks immediately following birth; it then had a proprietary milk for five months. At a year old the child had whooping-cough, and other illnesses followed. The other members of the family were healthy. The skiagrams of the case were

shown. The possibility that it was a case of renal rickets had arisen and been discussed, but, so far, no satisfactory specimen of the urine had been obtained, as the child was so young. An effort would be made to do so. He invited views.

Mr. BLUNDELL BANKART said the case came to his out-patient department and showed the evidences of rickets—the square head, the conformation of back and abdomen, the enlargement of the lower ends of the radius, and the crooked legs. But he had not previously seen in association with rickets the fixed flexure at the knees which this patient presented. In some features the epiphysial changes in this patient were not the characteristic ones of rickets, and he thought the trumpet-shaped contour of the extremities of the shafts of the long bones gave it a resemblance to renal rickets. If this was likely to be the condition, it would cause hesitation in undertaking operation for rectifying the deformity.

Mr. W. H. OGILVIE did not regard this as a case of renal rickets, as the change seen at the lower end of the femur did not resemble that of a recent case of renal rickets he showed to the Section. In the latter case the bone presented a more definitely moth-eaten appearance, and the deformity was due to the epiphysis having slipped. The lower ends of the bone showed a trumpeted appearance, but the diaphysis was spread out, and there was a markedly increased density at the lower ends of the bones. The bones in the present child did not show any signs of osteoporosis, such as was evident in his own case of renal rickets, and a further contrast was that this child now shown appeared to be well in general health.

Mr. T. H. OPENSHAW suggested that perhaps this patient had a congenital flexure of the knees, and that the rickets was a superadded condition. It was very unusual to find both knees flexed to an equal degree in a case of recent onset.

Mr. H. A. T. FAIRBANK said that even though the bones of this child were unusually dense, he inclined to regard this case as one of renal rickets; the condition of the lower end of the femur was, he thought, very suggestive of that. It was not a bending, but a fracture at one side of the bone. The dense bone at the surface of the shaft ran into the lower fragment in the way usually seen in renal rickets. The impression he had, based on his experience, was that one did not see juxta-epiphysial fractures unless the child was going down-hill and the bone was atrophic. The prognosis of such was very grave. He had seen two or three cases in which light treatment had definitely cured, for the time being, changes apparently rickety, but not cases which had progressed to the stage of sustaining fracture; they usually progressed downwards to death. If the present case was a renal one, it seemed that the bones had been at one time much less dense than now, and that, therefore, treatment had enabled the child to deal with its condition. He counselled examination of the urine before deciding as to operation.

Mr. BAILEY, in reply, undertook to have the urine examined, and a blood-urea test done.

### *Coxa Vara.*

Mr. FAIRBANK showed the bones from a patient the subject of coxa vara, whom he exhibited at the last meeting of the Section. There was an unusual congenital deformity of the upper end of the femur, coxa vara, and a very short femur, with a bend in it a short way down the shaft. He did an osteotomy on the case, and was proceeding to over-correct the bend in the femur when death suddenly supervened, and no cause for this collapse could be discovered. There was even less than the usual amount of bleeding, and the bone oozed less than was customary; moreover, there were no evidences of shock. At the post-mortem examination the greater part of one lung was found to be indurated by a thrombosis in the coronary vessels. The specimen now exhibited showed that the neck was present and was cartilaginous, but not ossified. He had a similar case in which death took place under the anæsthetic, and there nearly the whole of one lung was an infarct. Neither of the cases was septic, as far as he could discover, and there did not seem to be sufficient shock or bleeding to account for the thrombotic condition. He therefore assumed that the clot began to form in the heart.

### *Osteomyelitis Variolosa.*

Mr. P. J. VERRALL described, and illustrated on the screen, two cases of this condition which had been under his care in the last year. There was osteomyelitis of practically all the bones of the two limbs, including the metacarpals and the metatarsals, with septic arthritis of the elbows and wrists. It could be readily conceived that in the course of such a disease as small-pox there was a great deal of absorption into the bony system generally, with transient arthritis, pains in the bones themselves also being quite common, but actual osteomyelitis in the disease was a comparative rarity. Osler just mentioned it as a possibility. Recently two observers in America recorded what they regarded as the first case of this condition. A skiagram which Mr. Verrall now showed presented sinuses over all the metacarpal bones.

### *Osteomyelitis of the Clavicle.*

The PRESIDENT showed a boy who, in May last, attended hospital for what was found to be osteomyelitis of the clavicle, and an abscess was opened. Last month practically the whole bone was removed without an anæsthetic, and the sequestrum was now shown. The skiagrams showed that the shaft had re-formed; he had not seen this happen before in membrane bone.

Mr. T. OPENSHAW said his experience was that clavicle bone did re-form. In one case he feared the end of the clavicle would collapse, but a new clavicle had formed in two years, very mis-shapen and very thick; but four years later there was a perfect clavicle, both as to shape and thickness. It was an indication that function regulated and determined the ultimate shape of the bone.

### *Ununited Fracture of Neck of Femur.*

Mr. A. H. TODD showed a woman aged 30, who obtained a living by selling newspapers in a street pitch. She related that in March, 1924, she slipped on the snow, the impact being sustained on the left hip. She was treated at a provincial hospital four months by a Thomas splint, and was discharged, using crutches, as there was failure of union, and the shortening was about two inches. After walking a few hundred yards she had pain, and had been compelled to relinquish her work. Opinions as to what ought to be done for her were asked.

Mr. R. C. ELMSLIE said he thought the chance of getting good union in this femur, with such an amount of absorption at the neck was remote; but in a woman of this age the chance of securing reasonably good function was not by any means bad. He advocated removing the great trochanter, with the head of the bone, abducting the limb very widely, and trying to get the neck into the acetabulum, replacing the great trochanter an inch lower down in the shaft. Two years ago he operated on a man of 50 in that way, and though his duties involved climbing up rope ladders on to liners at sea, he had been six months back at work, and seemed to be doing very well. For nine months following operation he kept that man on a calliper splint.

Mr. OPENSHAW agreed with Mr. Elmslie that it was very unlikely there would occur union between the head and the great trochanter, as the surface was rounded off and devitalised. His own feeling would not be to scoop out the head from the acetabulum, though that could be done, but to break off the great trochanter, and put the top of the shaft into the acetabulum. The functional result of that, he thought, would be better than from any other treatment. If there had been fibrous union, a Hessing's splint would have constituted the best treatment.

*Spontaneous Fracture through Neck of Femur.*

Mr. H. C. EDWARDS showed a boy aged 6 years, who, in consequence of a cyst, sustained a spontaneous fracture through the femur neck. The boy, an only child, had never been strong, and he had been in bed for seven months prior to the hip giving trouble. He had had measles, which led to acute middle-ear disease, and for that the radical mastoid operation was performed. Chicken-pox was his last ailment. A week after his discharge from hospital he was walking in the street when he appeared to twist and crumple up, and was brought to hospital complaining of pain. The X ray showed he had an area of translucency in the neck of the left femur, and this was the site of the fracture. A double Thomas splint, with full abduction, was applied, and the position was maintained for five weeks, the Thomas being replaced at the end of that time by a double long Liston splint, being hinged at the left hip-joint so as to allow of full abduction. The patient was kept off his feet five months, and then was given a calliper splint, and allowed to walk. That splint he was still using. He was seen, by the skiagram, to have coxa vara, with the epiphysial line approaching the vertical. There was now no limitation of movement, except that of abduction, and the trochanter was raised. There was shortening to the extent of ½ in. to ¾ in. The problem now was as to how he should be treated for the coxa vara, or, most important, when it should be done. Should some time be allowed so as to see how the cyst remaining would behave?

Mr. ST. J. D. BUXTON said the question was whether all cases of cyst in bones should be operated upon, or whether they should not. He presumed that the purpose of the operation in most of the cases was to establish the diagnosis, though in most instances the skiagram enabled the nature of the disease to be known. There was no microscopical examination in the present case, but he agreed it seemed to be a cyst. It was curious that cysts should gradually become obliterated.

*Congenital Malformation of Arm and Eyelid.*

Mr. TODD showed a female child aged 6 years, whom he had known since she was a baby. There was a curious lump in the left eyebrow, with vertical grooves down it, while the right arm and hand presented a claw-like deformity. Except by applying splints to endeavour to correct the deformity nothing had been done. Skiagraphy of the skull was not satisfactory; he thought there might be a dermoid pressing on the motor area of the brain, thus causing the upper limb deformity. The question of treatment did not arise in this case, as the child was using her hand and arm, and the mother would not hear of any operative interference.

*Deformity of Spine.—Swelling of Ankle.*

The PRESIDENT showed two children with deformities of the spine, probably congenital. The first was a boy aged 6, who had only 11 ribs on one side, 12 on the other. His Wassermann reaction was strongly positive. The other, also aged 6, was a case of scoliosis; there was no evidence of rickets. Here also there was a strongly marked positive Wassermann. He had found that Wassermann was more commonly positive among children having congenital bony deformities than among ordinary hospital children. The boy with scoliosis had a double curve, and the heads of the femora did not appear to be calcified.

Mr. ELMSLIE said he recently saw a small boy who had a congenital malformation in the spine, and there were wedge-shaped vertebræ. There was a slight projection backwards at the site of the deformity, and the case had been diagnosed as spinal caries, and, to the distress of the father, a medical man, had been treated as such. It should always be possible to differentiate these cases from caries.

The PRESIDENT showed a boy aged 4 years, who was admitted to one of the London hospitals on account of swelling of the ankle, and was kept there seven weeks. Last January he came under the exhibitor's care in plaster, the diagnosis being tuberculosis of the ankle. When the plaster was removed, it was found that there was full movement, and but little swelling. A month later the ankle appeared to be normal, but a month later still, swelling recommenced, and again it subsided, skiagrams all along being negative. Last September the movements again became restricted, and there was swelling around the internal malleolus, but without undue heat. There was a small hæmatoma in the abdomen, and he thought it might be a case of hæmophilia. When the swelling again cleared, he was allowed to walk, but this caused pain and swelling, and therefore he was taken off his feet once more. The speaker had never known a case of the kind limited to the ankle-joint.

## SECTION OF EPIDEMIOLOGY.

A MEETING of this Section was held on Nov. 26th, the chair being occupied by Dr. S. MONCKTON COPEMAN, the President, when Dr. G. F. BUCHAN (M.O.H. for Willesden) opened a discussion on the

HOSPITAL IN RELATION TO PUBLIC HEALTH.

The problem, he said, was a much wider one to-day than 20 years ago, and in order to visualise the extent to which hospital provision was necessary for public health purposes he took as his basis the requirements for an average community of 100,000 people. At the date of the passing of the Infectious Diseases (Notification) Act, 1889, the term infectious diseases was held to include only small-pox, cholera, diphtheria, erysipelas, scarlet, typhus, typhoid, puerperal, relapsing and continued fevers. But to these must now be added cerebro-spinal fever, encephalitis lethargica, acute poliomyelitis and polio-encephalitis, ophthalmia neonatorum, acute primary pneumonia, acute influenzal pneumonia, trench fever, dysentery, malaria, plague, and tuberculosis. Notification implied isolation of the sufferer, but this did not suffice unless there were means provided for the patient to recover. It had been found that for the diseases notifiable under the 1899 Act, one bed per 1000 population sufficed, while for epidemic diseases of the central nervous system the 100,000 people predicated would require one bed, a similar provision being needed for puerperal fever and puerperal pyrexia cases, on the basis of each case lasting six weeks; while for ophthalmia neonatorum one bed was ample. With regard to the acute pneumonias, on the basis of 124 notifications in the 100,000 population, and the admission of 40 per cent. of the notified cases, he would set apart eight beds. It did not seem necessary to make any special provision for cases of trench fever, dysentery, malaria, and plague. Experience with tuberculosis showed the need of one bed for every 1500 of the population, and the inclusion of this among the notifiable diseases had raised many new problems of hospital accommodation. As the tuberculosis authority was not usually either the sanitary authority or the infectious diseases hospital authority, hospital provision for this disease had been generally regarded as a separate matter. There was need for unification here. As regards hospital provision for complicated and uncomplicated cases of confinement Dr. Buchan's experience showed that about 20 per cent. of all confinements would be most suitably accommodated in hospital, and he considered that for a population of 100,000 16 beds for confinement cases were needed. It was not so clear what provision should be made for children under 5 years of age, but, on the figures he gave for Willesden, at least 12 beds would be wanted, and for school medical work 13. Only a small proportion of new cases of venereal disease required hospital treatment, and three beds would probably be found ample. Thus a total of at least 221 beds should be provided for 100,000 people.

Dr. Buchan went on to deal with some pressing public health problems. One of these concerned measles, and he urged that there should be hos-

pital room for severe complicated cases of that disease, and seven beds should be reserved for them. Whooping-cough also, like measles, caused many deaths, and at least four beds should be set apart for complicated cases of it. On the question of cancer of the breast, he pointed out that in Leeds it was found that if operation was performed while the disease was still restricted to the breast, 87 per cent. of the cases were still alive at the end of ten years after the operation; but if at operation the disease had advanced beyond the breast only 5 to 6 per cent. survived for that period. The accommodation for dying cases of cancer was scarcely a public health problem. He saw no reason why a hospital, suitably planned on the pavilion system, should not admit cases of all the diseases for which a local authority could make provision. He favoured a general hospital, with all the necessary special departments. In such an institution research could also very well be undertaken, chiefly, perhaps, in regard to the antecedents of patients coming to the hospital, in efforts to trace the factors influencing the production of the disease conditions; also the results of treatment and the general after-history of the patients.

*Discussion.*

Dr. T. CARNWATH considered that Dr. Buchan had approached the question from a commonsense point of view, though probably he would admit that some of the estimates given could be revised with advantage. For example, the suggestion of six beds per 100,000 for cases of rheumatic disease must be compared with Birmingham's provision of 100 beds for that disease to serve a population of about a million, and even the 100 were not found to be sufficient. Dr. Buchan's remarks concerning the present development of hospital accommodation would probably be echoed by most members of the Section; few of those engaged in public health work could be satisfied with the present arrangement of hospital provision. It was unsatisfactory to have little maternity homes and isolation hospitals springing up in all sorts of places, having no connexion with any central institution and no facilities for research. Much could be said in favour of the big hospital, such as Dr. Buchan portrayed, though small hospitals might well act as feeders to the larger one. In the matter of such cases as those showing the sequelæ of encephalitis lethargica a wider area must be contemplated. He welcomed the opener's comparison of the State hospital with the voluntary hospital, and it reminded him of the up-to-date equipment and staffing of the municipal hospital in Philadelphia, which he saw on his visit to the States, which impressed him very much. There the whole organisation of the hospital work was under a director of health, and the work was divided into a hospital section and a general section. Not only was the laboratory one of the finest he had ever seen, but the organisation for following up cases afterwards was well worthy of emulation on a large scale in this country, for in Britain among the large numbers being operated upon the after-history was known in only a small percentage.

Dr. J. D. ROLLESTON pointed out that in Paris and a number of other large towns on the continent there were not found special isolation hospitals for children, the pavilions for the treatment of infectious diseases being placed in the grounds of the ordinary children's hospitals. Only for adult cases were special isolation hospitals provided outside the ordinary hospital areas. The treatment of cases of infectious disease in ordinary children's hospitals was a matter of interest, as the best men on the staffs of those hospitals were likely to pay special attention to fever cases, and much valuable work on immunisation had been done in children's hospitals in recent years, especially in connexion with diphtheria and measles. There was great scope for study and research in isolation hospitals, not only in epidemiology, but also pediatrics, general medicine, and the history of medicine.

Dr. HUGH MCEWEN said many felt that in the past too many cases of scarlet fever had been isolated, and that a large number of patients with that disease might well, with due precautions and care, be nursed and treated in their own homes. He did not agree with the idea of some that small-pox cases could safely be treated in the same institution as other diseases, even though, apparently, it was done in Denmark. Dr. Buchan's comments on research work were very much to the point.

Dr. JANET LANE-CLAYPON asked whether there had been any real shortage of beds, and, if so, how severe that shortage was. With regard to cancer, she thought that in a neighbourhood like London theory was hardly likely to accord with practice in regard to the number of beds, because many cancer patients from all parts of England came into London for operation. Roughly, about 50 per cent. of the cancer cases came from outside the metropolitan area, therefore considerable provision had to be made in this respect for cases living outside that area. The proportion of inoperable cases could be altered, because obviously nearly every case was operable at some stage if it could be seen at that stage, and when the proportion of inoperable cases to the total had been reduced more bed provision would have to be made. Inquiry had been instituted as to the amount of delay in the admission of cases of cancer of the breast, and it was found that, for all practical purposes, there was no delay; in 800 cases there was a delay of more than a few days in only two, and in those the interval was purely accidental.

Dr. M. B. ARNOLD spoke of the difficulty of allotting beds to cover seasonal requirements, and said he thought most of Dr. Buchan's observations were founded on the assumption that the demand for beds would be steady month by month. But with regard to diphtheria, which most would prefer to treat in hospital, such a steady demand would not occur. At certain times isolation hospitals were almost forced to overcrowd, while at others the staff had to stand more or less idle. During the slack times the accommodation could be used for cases whose operation could be deferred for a time without definite harm to the patient. It seemed to him possible that someone responsible for supervising the needs of a district could smooth out these admission irregularities.

Dr. G. C. TROTTER remarked that Dr. Buchan seemed to include everything in his suggested hospital, so that there would be no need for other kinds. As to the idea of leaving cases of advanced cancer to the guardians, he did not see why that should be done, as there was still held to be a stigma attached to the Poor-law institutions. And if these cases were left at home it imposed a great hardship on the family, and the nursing and attention usually knocked up one or more members of it, even if a district nurse's services were secured to relieve the situation. Altogether he thought Dr. Buchan had made out his case. As time went on perhaps the stigma of the Poor-law would be removed.

Dr. M. RANDALL, speaking as one with experience of a place of about the size Dr. Buchan was dealing with, said it meant that more beds would be required and that opened the question of who would look after them. Sufficient fully trained nurses might be a difficulty; he did not think so-called fever nurses were capable of dealing with general cases, including surgical.

Dr. T. S. MCINTOSH mentioned that for six months he was assistant to Dr. Buchan at Willesden, and said he regarded the paper as very valuable, if only for the figures given of the estimated accommodation required for the various conditions. He had himself seen the hospital in Amsterdam which had been referred to, and was surprised to find that small-pox was being treated in a general hospital. But the medical superintendent had no fears about the spread of the infection to other patients. Yet the small-pox pavilions there were less than 40 feet from the street and from some of the other pavilions. He agreed that the best plan was to have one hospital for all kinds of cases, and it was desirable boldly to proclaim that it was the duty of the community to provide for

everyone in need of medical and surgical treatment who could not afford the usual fees.

The PRESIDENT said scarlet fever was now of so mild a type that it seemed unnecessary, and a waste of public funds, to treat it in hospital. But 30 years ago it was a much more serious disease. Measles had become more dangerous, and diphtheria was increasing. Cancer at the present time was largely on the increase, and many cases came for treatment to London from outside the metropolitan area. Many of the infirmaries had no cases of advanced cancer, and some cases did not remain in those institutions for more than a couple of months. Advanced inoperable cases could not be looked after at home, as they upset the household too much, and a large proportion of them could not at present come into hospitals or other public institutions.

*Reply.*

Dr. BUCHAN said he did not regard small-pox as so terrifically infectious as some of the older authorities considered it to be. And if anyone proposed to treat it along with other diseases in a general hospital, he would not try to dissuade him from doing so. Whatever people might say as to the number of Poor-law beds available, his view was that there were not yet sufficient beds in this country available for public health work.

## ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on Oct. 28th, when Dr. J. M. CROMBIE delivered a presidential address on the

*Treatment of Fractures of the Mandible.*

The commonest causes of these fracture, he said, are motor-cycle accidents, blows of the fist, kicks from horses, and industrial accidents. Generally the fracture is compound into the mouth; the site may be almost anywhere, but it is most often in the bicuspid or canine region. Very often a fracture there is accompanied by a fracture of the angle or ascending ramus on the opposite side. Oblique fractures are the rule, although transverse fractures are met with occasionally at the symphysis. In addition to the usual symptoms of fracture there are several special features in fracture of the mandible—viz., a little hæmorrhage into the mouth, inability to close the mouth and to articulate properly, and dribbling of saliva. The fragments can be seen to move when the patient swallows and there is usually a definite irregularity in the line of the teeth. In single fractures the smaller fragment usually over-rides the larger; in double fractures the centre fragment usually drops downward. Dislocated teeth are very common and care should be taken that a tooth has not dropped between the fragments. Fractures of the ascending ramus are usually accompanied by much swelling but very little displacement. Crepitus, difficulty in moving the jaw, and deviation to the affected side are the symptoms of fracture of the neck of the condyle.

Before treatment is begun, said Dr. Crombie, a good X ray photograph must be taken—especially an oblique view. A preliminary cleansing of the mouth is also necessary, as well as a dose of antitetanic serum. In the region of the ascending ramus and angle very little in the way of treatment is required except the support of a bandage. Where there is displacement of the fragments of the mandible and splinting is to be carried out, impressions of upper and lower jaws must be taken in modelling composition. Impressions of these are cast in plaster-of-Paris and if the fracture is in the dentigerous area the lower model is sawn through the side of the fracture and articulated with the upper model so that the condition of the jaws is as it was before the fracture occurred. Many kinds of splint have been devised for fixation, but most of them are modifications of the classical Hammond or Gunning splints. The original Hammond splint consisted of a piece of wire which was fitted round the inside and outside of the necks of the teeth in the lower jaw; after reduction of the fracture into this splint fixation was obtained by figure-of-eight wiring round the teeth. This was made of iron wire which in practice was too soft and had a nasty taste, and also stained the teeth. More recently gold, dental alloy, or German silver-gilt have been used. In a modification of this splint, which he has devised, said Dr. Crombie, bands are fitted round the necks of the second bicuspids or other suitable teeth and a band fitting the inside and outside of the intervening teeth is soldered to these. The original Gunning splint was made of vulcanite and covered both upper and lower teeth and part of the gum with a hole in front for speech and one at each side to allow the saliva from the parotids to enter the mouth. For cleansing purposes it was drilled all over with small holes. The fragments were reduced into the splint and the jaw held up by a four-tailed bandage. The modern splint is made of metal and only covers the teeth, the upper and lower cups being soldered together if the mouth is to be kept shut; if the mouth is to be kept open they are joined by soldered struts. This splint is usually cemented on to the teeth and an aluminium chin support is used for a day or two.

Dr. Crombie believed that fractures in the dentigerous area of the mandible should be treated by a single Gunning splint, cemented on. With this treatment, he said, the temporo-maxillary joint does not stiffen and after a few days ordinary food can be taken. It is possible to use this splint only when there are teeth on each side of the fracture; otherwise a double Gunning has to be used. Shaky teeth should be left as they often heal in place and if they do not they can easily be removed later. Where there is a comminuted fracture with much sepsis, a Payne's cradle splint is to be recommended; this is almost a double Hammond, the upper and lower splints being held together by cross struts. Free drainage is thus obtained and the mouth can be washed out easily with an antiseptic solution. Discussing the treatment of cases where there is much bone loss, Dr. Crombie said that it is of the greatest importance to keep the fragments in their proper relationship to the upper jaw. In edentulous people he recommended wiring or fixation of the bony fragments by kangaroo tendon. In conclusion, he stated that no matter how a fracture of the mandible is being treated, absolute cleanliness of the mouth is essential. The mouth should be syringed with an antiseptic (mixture of equal parts of carbolic acid and liquor potassæ: one volume of mixture diluted with 39 volumes of water) before and after each meal, and if the splint is detachable it should be removed and boiled. The food must be soft, but with the aid of a mortar and pestle a varied menu can be given.

*Lesions of the Hip-joint.*

A further meeting of this Society was held on Nov. 4th, when Dr. JAMES CROMBIE took the chair, and Mr. ALEXANDER MITCHELL gave a demonstration of lantern slides illustrating diseases of the hip-joint. Dealing with tuberculous lesions of this joint, Mr. Mitchell laid emphasis on the persistent tendency of the head of the femur to become dislocated—a condition which if left untreated led to shortening of the leg, even up to four inches. Fixation of the limb in a fully abducted position with extension prevented the head slipping out in this way, and combined with treatment along modern lines would lead to cure of the disease, probably with impaired movement, but with little shortening or subsequent disability. Unless this was thoroughly understood, said Mr. Mitchell, even the most faithfully carried out treatment would not produce the desired result. Difficulties such as proper fixation and nursing could be overcome to a great extent by prolonged institutional treatment and careful observation afterwards. In conclusion, Mr. Mitchell put forward a plea for the more active treatment of fractures of the neck of the femur in the aged.

A discussion followed.

# Reviews and Notices of Books.

THE FUNDAMENTALS OF SCHOOL HEALTH.

By JAMES KERR, M.A., M.D., D.P.H. Cantab., Consulting Medical Officer to the L.C.C. London: George Allen and Unwin. 1926. Pp. 859. 35*s*.

THE author of this treatise has had unrivalled qualifications for his task. He has specialised both in ophthalmic and in aural surgery, and his experience in clinical and administrative capacities has been such as to earn him the sobriquet "the Father of School Hygiene." If anyone were not aware of these facts he would be able to deduce them by applying the canons of higher criticism to this text-book.

The book begins with an exposition of modern views of heredity; then follow chapters on growth, physique, and nutrition—veritable store-houses of facts and figures interspersed with practical comments. There is also an account of the various formulæ which have been devised to estimate nutrition and physique, and the recent methods by which Martin Flack and others have sought to test physical efficiency. A description of vitamins and their relation to other food factors is included; in conjunction with this should be read the chapter on Light as a Healer, which deals particularly with the influence of ultra-violet rays, and the résumé of our knowledge of rickets and dental caries.

Sleep is discussed from the practical aspect; the treatment of enuresis is not so full as the difficult problem deserves. The chapters on the Spine and the Foot are of much general interest; the former contains a note on orthostatic albuminuria, here called lordotic. Tuberculosis, rheumatism, and heart conditions are considered in detail, the indications for prophylaxis and general care being given. According to Dr. Kerr, actual phthisis in children of school ages is a rarity, amounting to no more than 4 per 1000, but there are large numbers of children showing pulmonary gland infection, which is extremely amenable to treatment by ordinary hygienic methods. In this way he reconciles many apparently conflicting estimates of the number of tuberculous children. A sound explanation is given of what is here meant by hygienic treatment; and the school aspect is dealt with under the heading of open-air schools, which, as Dr. Kerr emphasises, must be far more than mere schools in the open. An attempt is made to describe mental development and intelligence from the physiological standpoint; some of the functions assigned to the supragranular layer of the cortex and to special areas of the brain can hardly be regarded as established. The presence of a localised moral centre is certainly not generally accepted; and, indeed, the whole question of the moral imbecile is in some confusion. Dr. Kerr is an enthusiastic advocate for the sterilisation of the mentally defective.

The later part of the work deals with medical inspection, administration, and infectious diseases; here a valuable citation of some legal points is followed by an account of the hygiene of school buildings, including notes on the official requirements. A section on the health of teachers, the criteria of their acceptance into the service, and the procedure and circumstances of sick leave and invalidity is welcome. Lastly, there is a concise explanation of the use and methods of statistics. No bibliography is supplied, but references are given in the course of the text.

The volume is packed with information, and will be valued by everyone who is concerned with the health of children. And what practitioner is not?

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THE SURGICAL TREATMENT OF GOITRE.

By WILLARD BARTLETT, M.D. St. Louis. London: Henry Kimpton. 1926. Pp. 365. 37*s*. 6*d*.

THIS is probably the largest volume yet published in England or America that is wholly devoted to the surgery of the thyroid gland. Every aspect of the subject is dealt with exhaustively and the text is throughout based on the author's extensive personal experience. It is not a book that will fill the occasional thyroid operator with confidence, for a careful reading of it will certainly impress upon him the many difficulties that are sure to be encountered, but he will obtain from it much sound advice which will probably save him from some of the pitfalls. The book will be read with interest by the experienced operator who will note the many idiosyncracies of Dr. Bartlett's technique, perhaps with profit to his own. Of particular value, perhaps, is the chapter on anæsthetics; the author favours a combination of local with light general anæsthesia. Twenty-three pages are devoted to the subject of ligation of arteries, Dr. Bartlett having found the iodine medication of Plummer to be less efficient than it appears to have been at the Mayo Clinic. In this he is at variance with many other operators. The book is fully illustrated.

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*The Thyroid Gland.* By CHARLES H. MAYO, M.D., and HENRY W. PLUMMER, M.D. The Beaumont Foundation Lectures. Same publishers. 1926. Pp. 83. 8*s*. 6*d*.

A SUBJECT so debatable as the diseases of the thyroid gland and their treatment is productive of an increasing flow of literature. For those who are too busy along other lines to keep pace with the output a concise summary of our knowledge is of value. The position in 1925 is well summarised in this slim volume, where each author is responsible for about half, and each has made his portion of great interest. Dr. Mayo has contented himself with giving an account chiefly of the work and conclusions of others concerning the history, anatomy, physiology, and chemistry of the thyroid, with the ætiology, bacteriology, geography, and metabolic influence of goitre. Thus he describes the work of Rosenow upon the bacteriology of goitre, with his claim to have reproduced diseases of the thyroid in animals, but makes no comment on the validity of these claims or their application in treatment.

Dr. Plummer's contribution, on the other hand, expresses chiefly his personal views, and he leaves the reader in no doubt as to their nature. He deals in an interesting way with the classification of goitre and the clinical aspects of hyperthyroid states. He then discusses the theory of thyroid dysfunction, and this section, which summarises his experience with the use of iodine, is the most valuable part of the whole book. It was in March, 1922, that he first began the administration of Lugol's solution which has had so profound an effect upon the therapeutic and surgical treatment of hyperthyroidism. Control of the disease has been so satisfactory that Dr. Plummer finds that preliminary ligature of the thyroid arteries has been almost abandoned. Operative mortality has been very greatly reduced and post-operative control can also be maintained. He makes some startling statements concerning the treatment of colloid goitres with desiccated thyroid. The possibilities of thyroid medication will be fully impressed on anyone who reads Dr. Plummer's stimulating pages.

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INTRACRANIAL LESIONS.

*Studies in Intracranial Physiology and Surgery.* By HARVEY CUSHING, M.D. The Edinburgh Cameron Prize Lectures. London: Humphrey Milford, Oxford University Press. 1926. Pp. xxii. + 146. 8*s*. 6*d*.

EVEN to-day the belief is too widely held that the physiology and pathology of the brain is but little understood and that the treatment of intracranial lesions holds out but small hopes of success. Dr. Harvey Cushing has already done more perhaps than any other living worker to dispel this belief, and these lectures will bring conviction to any sceptics who read them carefully. A wealth of information is

here gathered in a small space, and is presented in an easy narrative style. The story is not confused by a mass of pathological and scientific detail. We regret only that this course of lectures was not expanded to include an account of the author's work upon the meningiomas and the tumours of the nervus acusticus.

The first lecture is devoted to a consideration of the cerebro-spinal fluid and its circulation. Step by step the growth of our knowledge in the method of the secretion and absorption of the fluid is traced in an account which becomes the more interesting in that Dr. Cushing shows how his own knowledge was obtained and his own difficulties overcome. It is in the development of this line of work that he and his colleagues have specially excelled; but although he describes fully his own chemical and experimental investigations, full credit is given to other workers. The ingenious experiments of W. E. Dandy in producing hydrocephalus; the work of L. H. Weed in determining the method of absorption of the fluid and of altering the amount of fluid by the intravenous injection of hyper- and hypotonic solutions; the observations of Harvey upon the functions of the meningocytes to form a new limiting membrane, to keep the fluid paths free of blood and inflammatory products, and their importance in the formation of the meningiomas—all these are described in detail. In the second lecture, which is devoted to the pituitary gland, a few historical notes are followed by a detailed description of the histology and functions of the individual portions of the gland. Of especial interest is the account of the importance of the pituitary in the production of glycosuria and polyuria. The latter part of the lecture is devoted to surgical considerations, and a warning is given that at present it is premature to believe that the internal secretions of the gland can be controlled by surgical procedures. The last lecture, which is entitled Intracranial Tumours and the Surgeon, describes shortly the enormous progress that has recently been made in the diagnosis and treatment of intracranial tumours, and it is shown that the diagnosis of the presence of the tumour, of its site, and of its nature, has reached a stage that a few years ago would have been regarded as impossible. Dr. Cushing lays great stress upon the fact that the prognosis largely depends upon the pathological nature of the tumour, and he gives an account of his work with Dr. P. Bailey in classifying the gliomata and other neoplasms. At first sight this classification appears to be very complicated, but it is shown so clearly that the clinical progress depends on the variety of tumour that a knowledge of these types becomes essential.

The work is one of great interest and should not only be read by those who are interested in cranial surgery, but by all practitioners, for it demonstrates how much may be expected from the introduction of modern surgery into the treatment of these difficult cases.

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THE INNERVATION OF THE URINARY BLADDER.

*Die Innervation der Harnblase; Physiologie und Klinik.* By Dr. HELMUT DENNIG, Privatdozent for Internal Medicine, Heidelberg. Berlin: Julius Springer. 1926. With 13 illustrations. Pp. 98. M.6.90.

DISSATISFIED with the usual descriptions of the innervation of the urinary bladder, and aware of the discrepancies and contradictions in these, Dr. Dennig has undertaken afresh an investigation of the problem, which he has approached from anatomical, physiological, and clinical sides. A full account is given of the results of section of the various nerve supplies (nervi pelvici, hypogastri, and pudendi), and of the clinical symptoms and signs in bladder disorders of spinal origin. The sensibility of the bladder receives careful consideration. There are chapters on the central (cerebral) representation of bladder mechanisms, on functional bladder impairment, on pharmacological investigation, and on diagnosis and treatment. More than nine pages of references are appended. It is difficult to give even a precis of the author's findings, in view of their detailed character and their wide range (from anatomical minutiæ to the "symbolic pollution" of the psycho-analyst). But we have found the book peculiarly interesting and informative, and commend it to the neurologist and clinician because of its scientific tone and its cautious conclusions. It would be assured of further appreciation were it to appear in an English edition.

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CAVERNOUS SINUS THROMBOPHLEBITIS,

*And Allied Septic and Traumatic Lesions of the Basal Venous Sinuses.* By WELLS P. EAGLETON, M.D., Medical Director, Newark Eye and Ear Infirmary, Newark, N.J., &c. New York: The Macmillan Company. 1926. Pp. 196.

Dr. Eagleton has written a record of personal experience in the diagnosis and treatment of the always somewhat serious affections of the venous sinuses of the brain, in particular of the cavernous sinus. His method is to illustrate the ætiology, clinical varieties, and complications by specific clinical cases in greater or less detail, and on these to pass some critical comment. Numerous references are given to the literature at the end of each chapter or section. A presentment of this kind has both advantages and disadvantages; if the reader goes carefully through the clinical records his patience will be rewarded; yet he may at the same time get the impression that the synthetic study of the author's abundant material leaves a little to be desired. We miss really adequate anatomical diagrams or drawings of the structures with which he is dealing, for those on p. 111 are curiously incomplete; the clinical and pathological photographs are good. The chapter on differential diagnosis is unexpectedly meagre, whereas those devoted to treatment are more satisfying.

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## JOURNALS.

QUARTERLY JOURNAL OF MEDICINE.—The October number contains the following articles. Studies in Calcium and Phosphorus Metabolism. Part IV. The Influence of Free Fatty Acids in the Intestine on the Absorption and Excretion of the Mineral Elements, by S. V. Telfer. Previous papers have been published by the author in this journal on Calcium and Phosphorus Metabolism (*Quart. Jour. Med.*, 1922–23, xvi., 45, and 1923–24, xvii., 245) and the series is here continued. A child suffering from catarrhal jaundice formed the subject of the investigation and a study of mineral metabolism was made at three periods of the illness showing widely different levels of fatty acid concentration in the intestine, owing to alteration in the elimination of bile. Phosphorus absorption was greatest in the first period of the illness, when bile was absent from the intestine and a large excess of fatty derivatives were present. The relationship between this and the calcium combinations in the gut are also discussed.—Studies in Calcium and Phosphorus Metabolism. Part V. Infantile Rickets: the Excretion and Absorption of the Mineral Elements and the Influence of Fats in the Diet on Mineral Absorption, by S. V. Telfer. Further researches are detailed on the excretion of mineral elements in infantile rickets. Early cases were investigated, the minerals in the urine and fæces and the composition of the fæcal solids being determined. The results are compared with similar data previously obtained in normal subjects. During the active stage of rickets there is an excessive loss of mineral salts in the fæces, during healing there is an increased absorption from the intestines. The influence of fat in the diet was also determined, and it was noted that in accordance with their therapeutic values fish-liver oils increase the mineral retention values in rickets, whereas olive oil

and butter had no such effect. It is suggested that cod-liver oil produces its action in rickets by allowing free absorption of the mineral elements from the gastro-intestinal tract.—The Effect of Exercise on the Pulmonary Ventilation and Rate and Depth of Breathing in Chronic Bronchitis. Paper I. By J. M. H. Campbell and E. P. Poulton. A series of patients suffering from chronic bronchitis of varying grades of severity were housed for the night and the greater part of the day in a chamber containing 40 per cent. of oxygen for a period of a week. Observations were made on the respiratory exchange before, during, and after this period. The effect of exercise upon the ventilation and respiratory exchange was especially investigated. In this paper the pulmonary ventilation of patients with chronic bronchitis, not undergoing oxygen treatment, is considered before and after exercise. It was found that the ventilation at rest is just above normal, whereas the alveolar ventilation is about the same as in health. Exercise increases the rate of respiration, but the alveolar ventilation is relatively low. The fact that normally an increase of $CO_2$ increases the respiratory depth, and a deficiency of $O_2$ increases the respiratory rate was confirmed.—The Effect of Exercise on the Respiratory Exchange in Chronic Bronchitis. Paper II. By J. M. H. Campbell and E. P. Poulton. The changes in oxygen intake and carbon dioxide output as the result of exercise in cases of chronic bronchitis are now described. More oxygen was used during work and the percentage of carbon dioxide in the expired air was invariably lower in chronic bronchitis than in health. This appears to be the essential factor of the breathlessness. In myocardial disease the gaseous exchange may be very poor in spite of deep breathing. The effect of residence in the oxygen chamber will be described in a third paper.—The Action of Insulin in Glycogen Formation and its Therapeutic Application, by R. D. Lawrence. Although it is recognised that insulin is a necessary factor in carbohydrate metabolism, producing on injection a condition of hypoglycæmia, the mode of action is in doubt. Here it is definitely stated as proven that insulin forms glycogen and that this is its main, if not its sole, action. Insulin is therefore anabolic, preparing and storing carbohydrate for combustion, although not actually burning it. The effect of exercise on a diabetic who is taking insulin is to burn up the carbohydrate, empty the glycogen stores, and thus produce hypoglycæmia. Insulin is also probably essential for the storage of glucose produced from protein, in the form of glycogen, and it may also check the formation of new sugar from protein. It is almost certain that fat is converted into glucose, and this is not changed into glycogen in the absence of insulin. It is possible that the production of ketones is a normal step in the conversion of fat into carbohydrate, which is, however, a gradual process. If the change is unduly accelerated in disease or starvation, by the deficiency of combustible carbohydrate, then the ketone bodies may be formed so rapidly as to produce clinical ketosis. It is also suggested that when glycogen is deficient the stimulus for the conversion of fat into carbohydrate is supplied by a hormone from the pituitary. The paper concludes with a consideration of the therapeutic aspect of the glycogenic theory of insulin action.—Some Observations on the Recorded Mortality from Diabetes in Recent Years in England and Wales as a Whole and its Principal Divisions, including London, with Special Reference to the Introduction of Insulin, by Matthew Young and W. T. Russell. By the middle of the year 1923 insulin was available in this country in sufficient quantities for the treatment of diabetes. An endeavour has been made to determine the effects of its use upon the mortality figures for diabetes and the age distribution of the disease. There is no accurate information available as to the number of diabetics in this country, but if the average duration of life is five years from the date of diagnosis of the disease, then there would be about 24,000 diabetics in England and Wales in the period 1923–24, and 29,000 for the British Isles, and of these 40 per cent. would be aged 65 and upwards. The figures show that previous to the introduction of insulin the mortality-rate for diabetes was definitely falling, owing probably to treatment by starvation. Since the introduction of insulin treatment the further fall in the death-rate has been relatively slight.

THE JOURNAL OF INDUSTRIAL HYGIENE for November is devoted entirely to various aspects of silicosis. In the opening paper E. L. Collis deals yet again with the statistical characteristics of dust-phthisis, but he reinforces old arguments by appeal to new and as yet unpublished data of occupational mortality for the years 1921–23. The data confirm in a signal way such earlier conclusions as that silicosis is only one of the dust diseases, of which bronchitis is the most important, that it occurs in association with Bright's disease, and that it possesses definite statistical characteristics which enable its presence to be detected, as, for example, among coal-miners, even when the phthisis mortality is below normal.—This latter point is taken up in the second article by N. Tattersall from the clinical side. He tells of the dust-risk for that small group of miners who sink and tunnel through sandstone rocks to reach the coal seams, and then describes the clinical features of 22 such miners who came under his observation as tuberculosis physician; he illustrates the silicosis found by six convincing radiographs. The condition is clearly identical with that seen in South African gold-mines, and is equally fatal. Dr. Tattersall instances six men who, three and a half years ago, were working together boring a hard heading, all of whom have since died of tuberculous silicosis.—Some relief to the deadly nature of silica dust is given by P. Heffernan, who tells of exposure to this dust without the occurrence of silicosis; he introduces his paper by interesting references to the ancients, whom he says did not suffer from stone-masons' disease, because they seldom used sandstones for building purposes. He then tells of certain brick-makers in Derbyshire who make silica bricks, but, although the process is a dusty one, do not suffer therefrom. The dust in this instance is composed of fine silica sand mixed with clay, which holds the bricks together (silica 83 per cent. and clay 9 per cent.). The only cases of silicosis seen among 176 regular brickmakers had worked previously as dressers of Derbyshire gritstone. Comparative radiographs are given of such a stone-dresser and a silica brickmaker, which show the lungs of the latter clear. Statistics are given showing a phthisis mortality per 1000 of 7·7 for Derbyshire gritstone masons and of 0·6 for the brickmakers. This immunity from silicosis when the silica dust is mixed with clay is comparable to that previously found in Stirlingshire and Yorkshire. The reason is yet unknown.—The next article, by E. H. Kettle, is a summary telling of his own experiments with silica. They show that silica is a definite tissue poison, and that when fine silica dust is introduced into the body it passes fairly rapidly into colloidal solution; in this form it attacks and kills the living tissues. Such necrotic foci provide a pabulum, especially favourable to the growth of tubercle bacilli, which, after injection, are found in far larger numbers in such silicotic tissues than in tissues damaged by other necrosing agents. Prof. Kettle holds that the silicotic lung favours the tubercle bacillus, not because it is fibrotic, but because it contains silica.—The series of articles is completed by a note by P. S. Hay describing shortly a dust-trap for catching dust generated by percussive rock-drills. Compressed air escaping from the drills is used, to act on the ejector principle for creating a localised exhaust draught. This draught sucks away the dust as it is formed and carries it into a filter formed of a flannel cylinder, which terminates in a metal box. The filtered air escapes from the flannel, while the dust drops into the box. The device should prove of value wherever percussive drills are used, either in mines or for dressing granite.

# THE LANCET.

*LONDON: SATURDAY, DECEMBER 4, 1926.*


## HYGIENE IN THE ELEMENTARY SCHOOL: PRECEPT AND PRACTICE.

IN his report[1] for 1925 to the Board of Education Sir GEORGE NEWMAN says that "it is common knowledge that a considerable number of schools throughout the country fail to reach a minimum standard of health and sanitation." He cites one county where there are 51 schools with no water-supply at all; 97 whose old and unhygienic desks require replacement; 62 in which the playgrounds are unsuitable in size, position, or surface; and 35 with no other sanitary accommodation than privy middens. Reference to the reports of school medical officers will show that in many urban districts conditions are no better. One of these officers, for instance, writing of a county borough with a population of 91,000, makes the following statements:—

"the majority of the schools were erected prior to 1880 . . . certain school buildings are out of repair, the roof gutters and exterior walls being defective and damp in places. . . . Many of the schools are provided with trough closets and it is quite common to find them in a foul condition. . . . At almost every school the urinals are not provided with flushing apparatus, and complaints have been received of the stench arising from these conveniences. The major portions of the playgrounds at several schools are unpaved—becoming pools of water and mud in wet weather."

These conditions are not exceptional; the criticisms apply to elementary schools all over the country. But to tell the truth in plain language is often impolitic when a medical officer is faced by a committee which has false standards of economy, is versed in procrastination, is ignorant or unheedful of sound hygiene, and glad to accept as sufficient the minimal requirements of the Board of Education. This country has little to be proud of in tolerating class-rooms which allow a floor space of only 10 square feet per child—less than is permitted by any other great nation. Everyone who cares for preventive medicine must agree with Dr. JAMES KERR, whose text-book we review on another page, that "it is time to give up the squalid ideals in relation to the elementary school-room." The moment may be wrong for the wholesale outlay of money on new buildings or on radical alterations of structure, but it is not wrong for the correction of definite nuisances and dangers to health, and measures to this end must take precedence of newer schemes, however picturesque and attractive. The whole position is disappointing. In his report for 1918 Sir WILLIAM HAMER said: "It may be assumed that a quarter of a million school-children in London are brought up in ignorance of, and without the possibility of, that minimum of attention to hygienic requirements which should now be necessary in every civilised community." The same holds good to-day, not only in London, but throughout the country, and the effects of school inspection and treatment are largely nullified by allowing inimical influences full play in the school-room.

The teaching of elementary hygiene now has a place in the curriculum; but when the school conditions are such as have been described, the oral lesson is so much waste of time. NOEL PATON and LEONARD FINDLAY have recently shown that the greatest single factor in healthy childhood is efficiency of the mother. Legislation has delivered the future parents of the race into the hands of the State at an impressionable age, and though satisfactory education of their intellect may be impossible in our elementary schools for many years to come, the education of their bodies is practical politics—an ideal infinitely easier to realise. And personal health, often made possible by higher wages and easier conditions, will go far to promote the maternal efficiency which ought to give children of the next generation a better start. Such a start is profoundly important, but even though we cannot secure ideal homes for the children of to-day, we can at small cost ensure tolerably healthy school conditions and there instil, by example more than precept, the knowledge of much that is essential to health and happiness. From the psychological point of view good surroundings are as necessary as suitable and sufficient food, fresh air and sunlight, exercise and rest, and a child once accustomed to conditions that are bright, airy, clean, and wholesome will grow intolerant of what is mean, dirty, and squalid. In hundreds of schools, however, it is the mean, the dirty, and the squalid that are put before the children's eyes. Overcrowding leads to a loss of self-respect, prevents the development of individuality, encourages filth, vermin, and infectious or contagious diseases, and renders ventilation more difficult. Many schools are dirty. Little imagination and less science are shown in the dusting, brushing, and scrubbing that go on fitfully; the surroundings and the playground (if any) are often nothing more than patches of mud, much of which the children bring into school on their boots. The walls of rooms are made of bare brick, or have dull, rough surfaces; the rooms themselves are filled with old, unnecessary, dusty furniture, and decorated with uninspiring pictures. Even to-day there are practical exponents of the hot-air system of heating and ventilation; even to-day the draught and open window are unintelligently handled, lights are ill-placed, and windows grimy.

The present drop in the school population gives an excellent opportunity for closing structurally unsuitable schools and for bringing down the numbers of children in class-rooms. These measures would be a big step in the right direction. Improved cleanliness can be secured by supervising the work of caretakers and cleaners, and by removing useless furniture or impedimenta; walls should be made smooth and painted in flat colours—bright, but not glaring—so as to be readily washed, whilst floors may be treated with dust-allaying oil. The formation of smaller classes lessens the difficulty of ventilation; the children respond better to discipline, and desks can be spaced to meet the need for light and air. Heating and ventilation in schools admittedly present difficult problems, requiring much careful thought, but there are few systems in existence—however inefficient in themselves—that could not be better, and probably more economically, run if a little more intelligent supervision were given to them. To hold open-air classes does not necessarily require much ingenuity or special provision; the shed in the playground may give ample protection even in cold weather, and simple exercises at intervals not only keep up the necessary heat, but bring about adequate adaptation in the

[1] Report for 1925 of the Chief Medical Officer to the Board of Education. London: H.M. Stationery Office.

whole mechanism of the child. Perhaps the gravest leakage of heat occurs through sodden footwear, which many children have to wear throughout the day during wet weather. As a source of debility this is probably of great importance, yet the provision of simple slippers—which can be made by senior girls at little expense and with some educational benefit—is the exception in most school areas. The midday hour, especially in country districts, may well be utilised in giving the children a hot meal. It is sometimes possible to use the opportunity for teaching plain cookery and dietetic principles to the bigger girls, and if efficiently supervised, a meal can be made into an occasion for imparting cleanly and orderly table habits. Again, the play instinct of children largely determines their growth, so that the lack or unsuitability of playground accommodation cries out for immediate reform. Washing arrangements—for the most part inadequate—now exist in most schools, but often the water will be found to be turned off, "as the children make such a mess." One, or perhaps two, roller towels are used for the removal of dirt both from sweating or perhaps hastily soused hands and faces, and from boots. There is no need to refer to septic conditions of the skin, nose, mouth, ears, and eyes. It is not enough to have wash basins; there must be soap, preferably in receptacles from which only a small quantity can be taken at one time. Paper towels are satisfactory and not expensive, in view of their advantages. Some responsible person should always be present during the times of ablution. Erection of spray or shower baths may be somewhat expensive, but in the long run it is cheaper than the present involved system of compulsory cleansing, and the moral value is beyond calculation. Swimming baths are a luxury, excellent as they are. As for the condition of sanitary conveniences, that is something that must be faced before any pretence is made to inculcate the principles of hygiene. Till these abuses are dealt with there is little need to consider the broader aspects of structural alteration, building sites, exposure, and surroundings; but enough has been said to show the immediate necessity for public bodies, educationists, and medical men to make further efforts to improve the conditions of elementary schools.

## EXPERIMENTS ON ANIMALS.

A CHARGE of alleged dog-stealing led recently to the conviction of a dealer who has supplied animals to the University College School of Physiology; the episode has been followed by prompt inquiry on the part of the authorities, by whom an official statement has now been issued. The episode has raised questions concerning the most satisfactory method of securing an adequate supply of animals for the purpose of research. Presumably it would not be impossible for the Medical Research Council to undertake the breeding of those required, though there is potential material already in existence. In a letter to the *Times* Prof. A. V. HILL has pointed out that over 50,000 stray, homeless, and unwanted dogs are annually sent to the lethal chamber, and the diversion of some of these to the service of scientific research would solve the problem simply and sensibly. But though this solution of the difficulty is adopted in America and elsewhere, in England it is barred by the law. In 1906 Parliament passed a Dogs Act, concerned with divers matters such as the liability of dog-owners for injury to cattle, the compulsory dog-collar, and the exemption of sheep-dogs from licence duty. One section of this measure dealt with the seizure and detention of stray dogs and their destruction by the police, if unclaimed, after a proper interval and after due notification to the owner, a register being kept with a brief description of every dog thus seized and detained. The humanitarian zeal shown by some propagandists, and the distrust of medicine shown by others, procured the insertion of a sub-section (Section 3, Subsection 5) enacting that "no dog so seized shall be given or sold for the purpose of vivisection." This clause, Prof. HILL suggests, should be repealed, but we fear that the attempt to do so would rally once more those who have supported the kindly but narrow views of the promoters of a series of Dogs' Protection Bills.

There are as many dog-lovers in the medical profession as in any other. We shall all agree that experiments upon dogs and cats should be restricted to the minimum. There would probably be scant professional opposition to a regulation that these animals should not be used for demonstrating to students accepted observations which need no further confirmation, but that is a very different thing from enacting by law that no canine subjects should be employed in any capacity for medical research. The reasons for using the dog for experiments devoted to the diminution of human and animal pain were fully and fairly stated in the memorandum[1] issued by the Medical Research Committee in 1919. It was there shown how such experiments had led to the prevention of disease and suffering in matters such as rickets, disorders of the teeth, the effects of alcohol and diseases of the heart, and how much the experiments had contributed to our knowledge of blood circulation. It is probable that some who are ready to take a prominent part in what they consider to be a defence of the dog have never studied this document, which should be supplemented by Dr. C. H. BEST'S letter on p. 1192 in the matter of insulin research, while many who now assume that all experiments classed as vivisection necessarily involve disregard of pain do not read the Inspector's reports prefixed to the annual Home Office return under the Act of 1876. That Act makes animal experiments legal, subject to an elaborate system of licensing, regulation, and inspection. Inspecting officers pay frequent visits, usually without previous notice, to all places registered for experiment. In the latest report, that for 1925, the inspectors found all animals suitably lodged and well cared for, and the licensees generally attentive to the requirements of the Act and the conditions attached by the Home Office to their licences. They report only two cases of irregularity in the year. One of these was the unlicensed immersion of trout in polluted water under a misunderstanding of the scope of the Act; immediate steps were taken by the offender to obtain a licence and the appropriate certificate. The other irregularity concerned certain simple inoculations made in the case of cats; the inoculator held Certificate A but not Certificate E; it was clear that he had erred unwittingly, and it was considered sufficient to admonish him. The importance of the report is that it shows how large a proportion of experiments are painless, and how great is the care taken to prevent the suffering of pain.

However reassuring an Inspector's report may be, there will still be dog-lovers who look upon every research worker as a ghoul, while forgetting that veterinary medicine owes a debt to medical research. Mr. STEPHEN COLERIDGE inserts in a letter to the *Times* the observation that "it is, of course, idle to

[1] THE LANCET, 1919, i., 947.

expect from a man of science any consideration of pity for vivisected dogs"—it is idle to expect from Mr. COLERIDGE reflections of any other character. A discovery of modern science—the use of insulin in cases of diabetes—has been made by means of experiments upon dogs, and to make this discovery fit into the contention that vivisection is unjustified by results, Mr. COLERIDGE must deny that insulin is a successful remedy. He does so, and he adduces figures from the returns of the Registrar-General in support of his denial. Here, at any rate, is a definite issue of fact upon which medical science can meet him confidently. The reply by Prof. T. R. ELLIOTT and Sir WALTER FLETCHER, restating matters within the knowledge of every medical practitioner, deserves the widest possible publication. The records of hospital patients treated with insulin show the vast misery that has been saved by the discovery.

## SMALL-POX IN THE NORTH.

SMALL-POX having failed in recent times to make itself felt as a fatal disease is now clogging the machinery of local government by its mere abundance. In the last Weekly Return there were 353 cases, all except 17 notified from counties north of the Dee and Humber, and 288 of them from the small county of Durham. Middlesbrough was the first scene of this northern outbreak; it was introduced there by a visitor in 1920, and up to the middle of 1925, when it rapidly diminished, about 1800 cases had been reported, all of conspicuously mild type. In the previous Middlesbrough epidemic of 1897–98 Dr. CHARLES DINGLE, medical officer of health, had to report[1] a third fewer cases, but attended with 166 deaths, and (in contrast with the Gloucester epidemic) the outbreak was only with difficulty got under control. In the recent epidemic Dr. DINGLE strove manfully to stem the tide, but receiving little or no support from his sanitary authority, he regarded it as hopeless to obtain immunity by vaccination, and accepted[2] the second-best plan of letting the population obtain immunity by contracting the disease in this mild form. Only an occasional case is now appearing in this town of 136,000 inhabitants.

The next serious outbreak was in Ashington, mid-Northumberland, where 500 cases occurred in two years in a colliery population of about 30,000. Here the sanitary authority, having no small-pox hospital, fell back on the isolation hospital, described[3] by Sir GEORGE NEWMAN as not at all suitable for the purpose. Friends and relations were permitted to visit patients at this hospital without proper precaution against the spread of infection, with the result that much inconvenience and loss of wages occurred locally, and infection spread to other areas. The part-time M.O.H. was not in a position to meet such a public health crisis in an intensely antivaccinist population, with a sanitary authority which strenuously opposed any efforts to get contacts vaccinated. Finally, notified cases seem to have been left at home with little or no supervision. The position at Ashington has since changed for the better with the appointment of a new medical officer, still a part-timer. The next outbreak occurred at Newburn, a colliery and iron-working district on the extreme western boundary of Newcastle, and gave an anxious time to the medical staff of that county borough. Here the outbreak was regarded, not as small-pox, but as a mild inoffensive disease, probably chicken-pox, and in the great majority of cases notified as small-pox no action of any kind was taken. Most of the cases of small-pox that occurred in Newcastle were traced directly to infection from Newburn; but each of the numerous outbreaks in the city remained restricted to one or two cases at most, showing how readily the disease is controlled when handled efficiently. During the past summer the disease crossed the Tyne, and outbreaks began to appear in the county of Durham, where the C.M.O. took a very active part in assisting and advising the district medical officers. Unlike Northumberland, Durham is a very densely populated county, and the result of mismanagement would be seen in thousands rather than hundreds of cases. Three members of Dr. EUSTACE HILL'S health committee, who criticised his drastic action at one meeting, were absent from the next, being themselves confined to hospital with small-pox. It is noteworthy that in none of the towns on Tyneside has the disease got any real hold, because it has been grappled with from the start.

In Gateshead a considerable number of cases were discovered by the M.O.H. in a very thorough house-to-house investigation of some streets from which one or two cases had been reported. In Newcastle, where the cases have never exceeded an occasional one, two, or three a week, the population is relatively well vaccinated, this measure having been pushed quietly and unostentatiously during the past year or two. Infantile vaccination in Newcastle approaches 70 per cent. But Newcastle has stood by its neighbours, and at the present moment is housing 30 or 40 cases from the Brandon district of Durham, where existing accommodation is overtaxed, and cases have been sent to Sealburn, Blacksell, and Shincliff, and even to Middlesbrough, while the suitability of Brancepeth Castle as a temporary hospital is being canvassed. In spite of all this costly inconvenience the vaccination centres are only sparsely visited. Contrast with this the extraordinary freedom of London from small-pox. At a recent meeting of the County Council, Mr. G. H. WALMSLEY, chairman of the Public Health Committee, said that during the years 1923-25 there had been 25 cases of small-pox reported in London, as compared with 11,630 in the rest of England and Wales. This he justly ascribed to the energetic action of public authorities in London in following up and vaccinating contacts, combined with the facilities for prompt diagnosis provided by the Council, and the close coöperation between all the medical officers concerned.

[1] THE LANCET, 1898, i., 1104.
[2] Jour. Roy. San. Inst., April, 1926.
[3] Annual Report of C.M.O. of Ministry of Health for 1925, p. 36.

IT is a hundred years since the death of the illustrious Laënnec, and it is also exactly a hundred years since the second edition of his masterly work, the "Traité d'auscultation," was published. The Paris Academy of Medicine has taken the initiative in celebrating this double anniversary by a series of meetings on Dec. 13th, 14th, and 15th. On Monday, Dec. 13th, there will be an afternoon reception at the Académie de Médecine and the Hôtel de Ville, followed by a reception at the Sorbonne in the presence of the President of the Republic, at which addresses will be given by the Rector, Prof. P. Ménétrier and by Prof. A. d'Arsonval, Prof. H. Roger, and Prof. Léon Bernard. The foreign delegates will also speak. On the following day there will be a morning visit to the Musée Carnavalet and in the afternoon Prof. P. J. Bar, Prof. G. C. Mirallie, Prof. M. Letulle, Prof. E. Sergent and Prof. C. Achard will deliver addresses at the Academy of Medicine on different aspects of Laënnec's work. There will also be an exhibition of souvenirs. For Wednesday, Dec. 15th, the arrangements include a reception at the Hôpital Laënnec and an address by Dr. Rist, followed by visits to the Hôpital Necker and the Hôpital de la Charité. In the afternoon, during a visit to the Institut Pasteur, there will be an address by Prof. A. Calmette on Prevention of Tuberculosis since the Days of Laënnec. The fêtes will close with a banquet the same evening at the Palais d'Orsay. All who wish to join in these interesting ceremonies should communicate with the Secretary-General, Prof. A. Roussy, 21, Rue de l'École de Médecine, Paris, 6. We understand that the Royal College of Physicians will be represented by Sir John Broadbent and the Royal Society of Medicine by Sir StClair Thomson.

# Annotations.

"Ne quid nimis."

## THE RECOGNITION OF THE FAILING HEART.

THE word "cure" is hardly applicable to heart disease. We can relieve symptoms and improve the functional efficiency of the diseased organ, and we can look forward to the day when we shall be able to prevent heart disease, but a heart once damaged is permanently damaged, and can never be restored to its normal condition. The importance of early diagnosis is paramount, in order that we may be in a position to arrest the progress of disease before it is too late, and while the heart is still capable of meeting the demands of a life of moderate activity. In his Morrison lectures[1] delivered before the Royal College of Physicians of Edinburgh, Dr. John Cowan discusses the evidence on which such early diagnosis must be based. In most forms of chronic disease disturbance of function can be recognised long before the appearance of objective signs resulting from structural changes in the diseased organ, and nowhere is this more true than in the case of the heart. Dr. Cowan rightly emphasises the fact that the earliest sign of impending heart failure is impairment of the tolerance for exercise. It is surprising that in framing a prognosis, the importance of making a careful study of the heart's functional capacity does not appear to be more generally recognised. Despite the teaching of the past quarter of a century and more, despite the overwhelming evidence to the contrary afforded by the examination of hundreds of healthy young men during the war, it still happens that people with perfectly normal hearts are told they are suffering from heart disease because of the discovery of a systolic murmur or of occasional intermissions in the radial pulse due to ventricular extrasystoles.

Broadly speaking, there are two methods of estimating the heart's functional capacity. The one is to ascertain by careful inquiry whether symptoms of distress are produced by a degree of exertion which previously was well tolerated. A progressive diminution in cardiac response, no matter how trivial it may appear to the patient, provided it cannot be accounted for by other causes, is always suggestive of the approach of myocardial insufficiency. Allowance must be made for advancing years, and it is not uncommon for a man who retains his mental vigour to be unwilling to recognise the natural impairment of his physical capacity. The common tendency is for patients to make light of, rather than to exaggerate, the severity of their symptoms, the result, perhaps, of an inherent optimism or of the insidious onset of the disability. In many cases the history alone suffices to clinch the diagnosis, but at times it is desirable to supplement it by physical tests, which must, of course, be appropriate to the physique and age of the patient. They should, so far as possible, conform to the type of muscular activity to which the patient is habituated, and for this purpose there is none more universally applicable than the ascent of a flight of stairs. Even such a simple movement as raising the body with one foot on a chair is less trustworthy, for it introduces the factor of balance and the use of less-trained muscles. It is not only the form of the test which is of importance in the assessment of the heart's physical capacity, but also the criteria adopted in assessing the result of the test. Attempts have been made to obtain a numerical expression of the heart's efficiency, and probably the one which has gained most general acceptance is the increase in heart rate following a standard exercise, compared with the resting rate two minutes after cessation of the exercise. This is a rough guide but in no way fulfils the requirements of a truly quantitative test. Reliance should be placed rather on the severity of symptoms such as breathlessness, precordial discomfort, or dizziness induced by the exercise.

Dr. Cowan calls attention to the ominous significance of progressive changes in the physical signs, such as gradually increasing cardiac enlargement, impure heart sounds which subsequently give place to definite murmurs, and the earliest appearance of traces of œdema in the ankles and congestion of the internal organs. Similarly, a progressive fall in systolic blood pressure is a sure sign of myocardial failure. The systolic arterial pressure is a measure of the heart's capacity to meet its liabilities, and should bear a quantitative relation to the diastolic pressure, but as the heart finds it more and more difficult to carry on, the systolic and diastolic values tend to approach one another. Additional evidence of myocardial failure is sometimes afforded by the electrocardiogram. For example, bundle branch block already has an established place in prognosis, but there are other changes of a similar nature associated with the onset of failure, the significance of which is not yet fully understood.

[1] Edin. Med. Jour., 1926, xxxiii., 465 and 533.

## RADIOTHERAPY IN GERMANY.

RADIATION therapy has passed through phases and fashions inseparable from the development of a new and important therapeutic agent. The old empiricism gave place to a new dogmatism. To-day there is a general disposition to return to older methods, but with this difference, that we need never go back to slipshod ways, for radiotherapeutics have become enriched by a wealth of technical resources and a harvest of clinical and biological knowledge. Its future lies in the application of these principles to properly selected cases. Towards that end the labours of our German colleagues are contributing in generous measure. The favourable impression given by the first volume of a comprehensive work on radiotherapy published in three parts during the last two years is fully sustained by the second and third volumes, dealing with the clinical aspect, special technique, and results of radiation therapy.[1] Surgery is divided into technical and clinical sections. For the convenience of surgical specialists without special radiological training, the essentials of physics are first summarised in an elementary article (Baerwald). Technique and biology are dealt with in the same introductory fashion (Rapp). Holfelder follows with a more detailed chapter on special technique, which includes a description of his "field selector," and contains a number of practical hints based on his personal methods. The technical section is completed by Rapp, discussing radioactive bodies. Its inclusion involves some repetition, as the ground was more fully covered in Vol. I., but gives completeness to a volume which is intended for the surgeon as well as for the radiologist. The clinical section contains some 80 pages on Carcinoma and Sarcoma (Werner) and the remaining 340 pages deal with other surgical conditions. This proportion should be noted by those in whose minds radiotherapy connotes cancer treatment. Prof. Werner's article is conservative in tone, and appears to summarise the present trend of German opinion in relation to cancer treatment by X rays. He opposes the "cancer dose" theory of Seitz and Wintz, but does not entirely reject the theory of the "irritation dose." His views on choice of method and selection of cases are sound and helpful. As to results, he admits that radical cures are few and that results of radiation are far behind those of surgery. He makes a good point in insisting that we should, in a given case, decide at the outset whether a palliative or a radical result is to be aimed at, lest the possibility of a good palliative result be sacrificed, as it often is, through over-treatment. Heliotherapy in surgical tuberculosis receives due attention. The photographs on pages

[1] Lehrbuch der Strahlentherapie. Edited by Prof. Hans Meyer. Berlin: Urban and Schwarzenberg. Vol. II. (Surgery). 1925. With 284 illustrations. Pp. 702. Vol. III. (Medicine). 1926. With 172 illustrations. Pp. 884. Price per vol., M.45

302 and 321 showing results in extreme cases are good propaganda, but that on page 322 appears to carry this to undue lengths. It represents an emaciated boy grotesquely mutilated by amputation, and bears the title "Example of the surgical treatment formerly employed in surgical tuberculosis." Jüngling emphasises the value of X rays in tuberculosis of bones and joints. Small doses, exact technique, and wise selection of cases, combined with good clinical judgment, are necessary to success. Holfelder treats of a miscellany of other surgical conditions. Interesting chapters on Radiation in Ophthalmology and Rhinology together with a section on Surgical Diathermy, complete the volume. Vol. III. is devoted to medicine. In a vigorous article, Pordes (Vienna) gives expression to the spirit of revolt against the too rigid technicalities in which X ray therapy has become involved. He charges the technician and the physicist with making incursions into the realm of biology, and of simplifying the monstrous complexity of biological processes to the point where they can be crammed into the rigid confines of a mathematical formula or of a regular curve; the physician who uses radiological treatment as an elastic therapeutic agent is unjustly regarded as guilty almost of malpraxis. Meanwhile, the patient's claims recede into the background, and the bewildered physician decides ultimately to work according to the scheme of school "X" or institute "Y," or even merely to follow the instructions given away at the time of purchase with apparatus "Z"! Pordes then applies himself to reconsidering the observed facts, and writes in a stimulating and commonsense vein. Other articles of special interest include Blood Diseases (Holthusen), Mediastinal Tumours (Kienbock), Pituitary Tumours (Kupferle), Malignant Diseases of the Thyroid (Haenisch), to name only a few. The special section on Diseases of Children is useful. The article on Graves's Disease is in the nature of a compilation, a defect from which the work, as a whole, is singularly free. We infer from this article that the bulk of evidence strongly opposes the often-repeated statement that X ray treatment seriously hampers surgical removal of the thyroid gland. This risk appears to have been exaggerated. Nearly all the articles have good case reports; statistical information as regards results is, for the most part, lacking. The indices to the separate volumes are excellent, and with the "contents tables" make reference to any special subject easy. The bibliographies are exhaustive. This text-book as a whole is one of the best and most complete works on the subject we have yet seen, and the editor and his collaborators deserve the highest praise.

## RECURRENT IRITIS.

OPHTHALMOLOGISTS now regard recurrent iritis as generally due to metastasis from a focal infection and its radical cure as dependent on the removal of the source of infection. Acting on this idea, Drs. E. E. Irons and E. V. L. Brown reported two series of 100 cases each in 1916 and 1923 in which careful studies of each patient were made to determine what kinds of infection were present. The sources of infection were removed so far as possible and the effect on the eyes noted. They have now presented a report to the American Medical Association summarising the first 50 cases from which they have been able to obtain reports with reference to recurrence.[1] In 43 of these 50 cases there was no recurrence of iritis after a period of observation of from three to 12 years. In the remaining seven recurrence had taken place. In the former (non-recurrent) group the ætiology, in more than half the cases, was ascribed either to the teeth or the tonsils and removal of the source was a comparatively simple matter. In the small recurrent group more than half were ascribed to either syphilis, gonorrhœa, or tubercle. This affords prima facie evidence in favour of the author's theory of causation being correct. In one dental case, for instance, in which there had been 12 previous attacks there was none for four years after the removal of the teeth, and in one tonsillar case in which there had been three previous attacks there had been no recurrence nine years after removal of the tonsils. It cannot, however, be claimed that treatment on these lines is always infallible or sufficient. In one case attributed to the tonsils in which there had been 21 previous attacks there was no recurrence for three years in spite of the tonsils having been left in, and in another similar case where there had been three previous attacks no recurrence for four years. As was remarked in the discussion the hygienic treatment which the patient receives has also its effect. Of other sources of infection Dr. W. Zentmayer emphasised the importance of the prostate and said that infection from this source is probably more often non-gonococcal than gonococcal. It should be added that in the case of gonorrhœa routine treatment of the prostate during the acute stage is apt to aggravate the ocular inflammation. Another source of focal infection was suggested by Dr. Lloyd Mills, of Los Angeles, in whose experience a large proportion of cases of chronic ocular inflammation are found associated with heavy intestinal infections of protozoa and flagellates of proved tissue-invasive capacity and nearly always with an accompanying chronic colitis. Effective treatment directed to the cure of this condition has, according to him, had most encouraging results. The day is past when all cases of iritis were said to be either syphilitic or "rheumatic," and though a more scientific diagnosis may not always be easy, we now know the direction in which to look for it.

[1] Jour. Amer. Med. Assoc., Oct. 6th, 1926.

## AMPUTATIONS AND ARTIFICIAL LIMBS.

IN an annotation on the adjustment of artificial limbs in our issue of Nov. 20th we commented upon the need of closer coöperation between operating surgeons and limb-makers. In a letter from Mr. Muirhead Little, which we publish to-day, he draws attention to another aspect of the question of the supply of artificial limbs to hospital patients. It is no reproach to the operating surgeon to say that, unless by chance he has had orthopædic experience, he will not want to instruct in details the limb-maker, with whom he, in present circumstances, seldom comes into contact. How many surgeons, having performed amputations of the thigh and seen the flaps soundly united, have opportunities to consider whether movement of the hip-joint is free and unrestrained? Yet it very often happens that there is contracture limiting flexion and such contracture, if of more than a slight degree, is fatal to free and comfortable locomotion on an artificial limb. A patient in such a condition may be sent to a limb-maker to be fitted, and although the socket supplied may accurately fit the stump, he finds that he cannot use the limb. The limb-maker may or may not realise what is the matter, and if he does, he may hesitate, on his own initiative, to send the case back to the surgeon with an intimation which in effect would mean that the latter had not done his work completely. Fifteen years ago there was a measure of excuse for all this, for amputations were few, and seemed to be becoming fewer; but since the great increase of motor-car accidents their number has much increased, and the subject of prosthetics has become proportionately more important. The British limb-making firms are second to none in skill, and are animated by the desire to do the best for their customers; at present their work is apt to go uncriticised, but honest criticism is absolutely necessary to efficiency, let alone progress. There is now in existence a first-rate institution—The Surgical Supply Depôt, Kensington—where among other things excellent provisional peg-legs or pylons are made, of which more use might be made in hospital practice than is at present done. We feel that a similar institution for the supply of permanent artificial limbs might be established under surgical supervision, with the coöperation of all the

metropolitan general hospitals. Opportunities for meeting the demand for artificial limbs at such an establishment would be open to all limb-makers, while the prescription and the approval of the limbs supplied would be in the hands of surgeons with special experience, They would supervise the training of the amputees in the use of the appliances, and discuss with the manufacturers both the limb to be made and any subsequent modifications that seemed needful.

## CYCLIC VOMITING.

THERE can be few questions on which current opinion is in so fluid a state as on the ætiology of recurrent paroxysmal attacks of vomiting. The so-called cyclic vomiting of children and the "pernicious" vomiting of pregnancy are both *associated* with ketosis, and a generation of students has learnt to describe them as "due to acidosis." Marfan even gave the name "acetonæmic" vomiting to the recurrent attacks in childhood. A further question followed naturally on this explanation: What is the cause of the acidosis? Some have answered this question by positing an inherent intolerance to fats, and treat the condition by prescribing a diet in which fat is rigidly restricted. That ketosis is the *cause* of these conditions is perhaps still to a certain extent the conventional view, but in recent years it has been freely questioned, and the number of those who are convinced of it is probably rather small. A few years ago the causal connexion between ketosis and the vomiting of pregnancy was challenged, and support was given to the existence of psychogenic factors in the ætiology. A number of pediatrists have expressed a similar scepticism about the causation of cyclic vomiting. Prof. J. L. Morse, of Harvard, has recently dismissed it as a popular fallacy, and it has been the experience of many who are engaged in the treatment of children that the attacks of vomiting are generally associated with some dietetic defect—not by any means always an excess of fat—and respond to the correction of the defect, whatever it may be, without any particular restriction of the fat in the diet. Other cases occur in which the toxic element is small, and which present no fundamental distinction from the clinical picture of migraine. Doubt as to the adequacy of the ketosis theory opened the way for rival suggestions, of which there have been many. Chronic appendicitis has been put forward, particularly in America, as a common cause, and success has been claimed for the results of appendicectomy. Prof. L. T. LeWald, of New York,[1] has investigated a large number of these children radiologically, and gives the results of an analysis of 44 cases. He found some abnormality in a part of the intestinal tract in the majority of cases, but considered that no one condition was so constantly present as to suggest a true cause. Abnormal length of the colon was his most frequent finding, being present in 35 cases, while "dilated ptosed stomach" was found in 23 cases. The two conditions were often present together. Of the individual cases which he describes, one, associated with headache and strabismus and cured by operative correction of the latter, may well be classed as migraine. Another case, with redundant colon, obtained no relief from appendicectomy but was subsequently improved by a suitable abdominal belt. A third, previously attributed to acidosis, was found to have a severe degree of pylorospasm. Prof. LeWald concludes that cyclic vomiting is probably of reflex nature and is usualy associated with abnormalities of some portion of the digestive tract. The questions of whether these abnormalities are mainly congenital or acquired, and to what extent they are responsible for the symptoms, are not discussed, but raise some points of interest. His other conclusion, that "cyclic vomiting is not an entity, and has no specific cause" is perhaps the most accurate representation of the ætiology which can be given, and is one which will discourage the adoption of any stereotyped line of treatment.

[1] Radiology, November, 1926.

## THE BRITISH SOCIAL HYGIENE COUNCIL.

IT will be remembered that a short time ago the National Council for Combating Venereal Disease changed its name to the British Social Hygiene Council and widened the scope of its work. There was a certain amount of opposition to a change of policy involving coöperation with local authorities in general health propaganda, but the report for the year 1925–26, which has just been issued, shows that fears of the direct work of the Council against venereal disease being reduced have not been justified by the event. Owing to pressure of work Sir Auckland Geddes has resigned from the presidency of the Council; Lord Willingdon has been elected in his place, which is especially appropriate, as the Council is shortly sending a delegation to India. The members of this delegation will be Dr. David Lees, of Edinburgh, Mrs. Neville Rolfe, secretary-general of the Council, and a secretary; expenses are being met by a voluntary fund raised in India, and invitations have been received from the governments of the chief provinces. The Council's work abroad, especially in the Dominions and Colonies, is well recognised, as was shown by the interest aroused by the Imperial Social Hygiene Congress held at Wembley last year, whilst its work at home continues to be of great importance. In particular the new programme of education demands notice. In presenting the principles of social hygiene to the public it became obvious that a definite statement on sexual continence was necessary. A committee consulted various authorities, and in March last the Council published the following:—

"The British Social Hygiene Council are of the opinion that: (1) In the interests of the race and of the individual it is essential that the stability of the family in marriage should be preserved, and social habits and customs should be adjusted to this end. (2) There is overwhelming evidence that irregular sex relations, whether in married or unmarried, lead to physical, mental, and moral harm. (3) There is no evidence either from physiology or from experience that for the unmarried sexual intercourse is a necessity for the maintenance of physical health. (4) There is no evidence either from psychology or from experience that for the unmarried sexual intercourse is a necessity for the maintenance of mental health."

This pronouncement has formed a basis for addresses delivered last year by Prof. J. Arthur Thomson, Dr. William Brown, and Prof. Julian Huxley under the ægis of universities, local authorities, and branches at 21 different towns. A medical film on the manifestations, diagnosis, and treatment of syphilis is now almost ready, and the first six sections are available for use in medical schools and by post-graduate associations. Especial effort is to be directed during the coming year to the relation between mental deficiency and the spread of venereal disease, and to the checking of congenital syphilis. The medical committee of the Council urges the need for antenatal work and the treatment of infected women during pregnancy.

## SILKWORM DISEASE.

PEBRINE began to make itself felt in the French silk industry in the 'fifties of last century. For a time the cultivators kept going by importing clean eggs from uninfected districts, and, indeed, reached their maximum production (26 million kilos of cocoons) in 1853. Despite all their efforts, however, the yield steadily fell after that until in 1865 only some 4 million kilos were obtained. Various individuals and commissions examined the matter, and Cornalia described the corpuscles which are now known as *Nosema bombycis*, but nothing was achieved towards the practical suppression of the disease. It is said that Pasteur, when he was asked by Dumas in 1865 to see what he could do, did not know that a caterpillar turned into a chrysalis and a chrysalis into a moth. That pebrine is now a thing of the past is sufficient evidence that this sort of ignorance does not matter very much to a man with a flair for experimental inquiry and a belief in the efficacy of microbes in causing disease. All Pasteur's writings

on silkworm diseases are collected in a noble volume,[1] the fourth of his collected works, by the pious care of Dr. Vallery-Radot. Three more volumes are promised, and the whole collection will form a splendid monument. The reproduction of the originals is, as far as a few test pieces go, meticulously correct, and the only thing we regret is that no footnotes or running commentary has been added to show the present state of the various hares that Pasteur started. Classical texts are edifying enough, but for those who have little knowledge of the subjects dealt with they are all the better for prolegomena, notes, and appendices.

## ETHYLENE ANÆSTHESIA.

ETHYLENE has only been in use, at all commonly, for three years and it may be still too early for a confident pronouncement on its exact place among available anæsthetics. Nevertheless, there are certain advantages and certain defects which are already so clear that the permanent value of this drug may be fairly gauged. For major operations, where complete muscular relaxation is required, it is obviously not in the same class as ether. On the other hand, it is more potent than nitrous oxide and can be used effectively with higher proportions of oxygen, which makes it a valuable aid where a patient is very feeble or ill. It is, in fact, for short operations on this type of person that ethylene is likely to be chiefly employed. The after-effects are slight, but so also are those of nitrous oxide and oxygen in similar cases. A writer in *Surgery, Gynecology, and Obstetrics* for November advances the claims of ethylene over "gas and oxygen" from the point of view of safety. His premises, however, do not seem correct, for he refers to the danger of nitrous oxide and oxygen in unskilled hands—a danger that exists, no doubt—but to the safety of ethylene properly employed. The truth appears to be that both these anæsthetics are quite safe for short operations, but either of them may cause deaths during long administration. We gather from the article quoted that both chloroform and ether are viewed with greater disfavour on the other side of the Atlantic than they are here. It is just possible that through an eagerness for improvement anæsthetists in the United States have not sought or obtained from the older drugs the best that they can give.

## A STUDY OF INCIDENCE OF ILLNESS.

A REPORT of the U.S. Public Health Service, dated Sept. 24th, 1926, contains a useful study of the incidence of sickness in the town of Haggerstown in Maryland during a period of 28 months. This town has a population of about 30,000, mostly white, and the investigation was limited to these. The study comprised some 1600 families selected for their representative character, and because of convenience for repeated visiting. After a preliminary visit, at which exact information was obtained, there followed 16 subsequent canvasses at intervals of from six to eight weeks. The data thus obtained as to illnesses which lasted at least three days are suggestive. Mr. Sydenstricker, statistician of the Public Health Service, gives the following as among the broad results obtained. An illness-rate of slightly more than one illness per person per year is indicated, the term illness being used as exclusive of attacks—for instance, of catarrh—which did not result in illness. This rate is about ten times as high as the rate for illnesses causing absences from work for eight days or longer among adult male industrial workers in a group of American industries. Nor is this surprising in view of the fact that the Haggerstown statistics include young children and aged people, as well as adults of intermediate ages. As in the English statistics of medical work under the National (Health) Insurance Acts, it is striking how low is the position occupied by tuberculosis, cancer, cardiac diseases, and renal diseases in the causes of illness during the 28 months' observation. The inference is drawn that these serious causes of mortality are actually less frequent as causes of illness than the illnesses which most of us at intervals experience. This conclusion needs tempering, of course, by consideration of the extensive treatment of these more serious illnesses in hospitals and infirmaries. Colds and bronchitis caused illness in 419 per 1000 persons in the group under observation; influenza and "grippe" in 143, digestive diseases 95, tonsillitis and sore-throat 65, puerperal conditions 46, accidents 40; the numbers under other headings becoming smaller and smaller, until we reach the lowest point of the scale, where appear pneumonia with 7, diphtheria, scarlet fever, and typhoid (aggregate) 6, hay fever and asthma 5 cases per 1000 persons. That death-rates are not a suitable index of illness is shown by the fact that in Haggerstown only 20 per cent. of the mortality, but 61 per cent. of the illnesses were due to respiratory diseases. Mr. Sydenstricker's report contains other observations worthy of note, and these are to be the subject of further study.

## RESEARCH IN CLINICAL PSYCHIATRY.

AT the quarterly meeting of the Royal Medico-Psychological Society held at the Horton Mental Hospital, Epsom, on Nov. 16th, a resolution was put calling for the institution of a preliminary Research and Clinical Psychiatry Committee. In a letter circulated to the members of the Association prior to this meeting, the President, Lieut.-Colonel J. R. Lord, expressed the view that such a committee should be composed mainly of medical officers actually engaged in research and higher scientific psychiatry, with the addition of representative teachers in psychiatry, clinicians of note and standing, psychologists, sociologists, and some interested in statistics. The committee, he thought, should be a large one to permit of good attendances at meetings and the group consideration of sections of work such as ætiology, symptomatology, treatment, classification, records, and statistics. At the meeting the President was able to report an encouraging response to this letter, and the receipt of many helpful suggestions from members. He reiterated the view that every member should either have definite work to do for the Association or some direct interest in it. Resolutions were unanimously passed appointing a preliminary committee to prepare the way for the Standing Committee to be set up under the charter. Local authorities are being asked to afford facilities for the holding of divisional clinical meetings, to which local practitioners will be invited, and to encourage all assistant medical officers to attend these meetings.

POOR-LAW HOSPITAL EXTENSION AT LEEDS.—The Leeds board of guardians is considering the reorganisation of its hospital system. An extension of St. James's Hospital has just been opened and Dr. J. Dick, assistant medical superintendent of Fir Vale Hospital, Sheffield, has been appointed its medical superintendent and chief medical officer of the union. The guardians have also under their control two other hospitals at Bramley and Rothwell respectively. It is proposed so to enlarge that at Bramley that it will ultimately accommodate from 800 to 900 patients and become a training school of the same type as St. James's. The arrangements at St. James's for visits by consultants are to be extended, and it is intended that there shall be two visiting surgeons, three visiting physicians, a gynæcologist, an aural surgeon, and an ophthalmic surgeon, and that the resident staff shall consist of six house surgeons and physicians who will work under the visiting surgeons. The latter will have their own patients, and will be at liberty to call in other consultants on agreed terms. It is further proposed to appoint a pathologist and bacteriologist, to set up a separate X ray department, and generally to develop the infirmary on the lines of a general hospital.

[1] Œuvres de Pasteur. Tome IV. Études sur la Maladie des vers à Soie. Collected by Dr. Pasteur Vallery-Radot. Paris: Masson and Co. 1926. Pp. 761. 16 plates. £1 3s. 4d.

# Modern Technique in Treatment.

*A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.*

## CC.—THE TREATMENT OF CHILBLAIN (ERYTHEMA PERNIO).*

### I.—GENERAL CONSIDERATIONS.

BEFORE discussing the pathogenesis of the actual lesion of chilblain it is convenient to consider the ætiology of the condition called "chilblain-circulation," acrocyanosis, or acroasphyxia, which is its usual accompaniment. It must however be recognised that chilblains may, rarely, occur in persons whose peripheral circulation is normally good, and conversely that a "chilblain-circulation" is not necessarily complicated by their development. Although patients liable to chilblains are not, as a rule, cases of Raynaud's disease, yet the latter often give a history of chilblains in childhood.

*The Fat Subject of Acrocyanosis.*

The subjects of acrocyanosis may roughly be divided into two types—the fat and the thin. The former is best exemplified by the blue-legged young woman, whose lower extremities have recently been the subject of some discussion in connexion with the wearing of silk stockings. This type is practically confined to the female sex, and presents the following clinical characteristics.

The patient is usually between the ages of 15 and 25, but the symptoms may persist until late middle age and may become accentuated at the menopause. She is fat, phlegmatic, and mentally often rather dull. The skin is harsh and dry on the extensor surfaces of the limbs, where there is also well-marked keratosis pilaris, particularly in the regions in which the cutaneous vascular stasis is most evident—viz., the posterior surface of the upper arms and the legs below the knees. Even in summer the peripheral vascular stasis can be recognised, especially in the lower halves of the legs, and in cold, damp weather it reaches its maximum. The lower extremities show an increasing degree of cyanosis from the thighs downwards; above the knee there is livedo, below it there is a diffuse dilatation of the cutaneous vessels which is most evident on the lower postero-external surface. Here the skin is of a livid purple colour and icy cold to the touch. It is in this situation, where the vascular stasis is most marked, that the hypodermic nodules of Bazin's erythema induratum arise, should the patient have an active tuberculous focus with bacteriæmia, and it may be remarked that Bazin's disease is hardly ever met with except in patients of this type; apart from true erythema induratum chilblains may occur and give rise to a real difficulty in the differential diagnosis. Around the pilo-sebaceous follicles, the site, as has been said, of keratosis pilaris, are little blue rings of venous stasis, and the lanugo hairs are coarse and long. The skin is bound down to the subcutaneous fat and cannot be pinched up, and both it and the underlying tissue give the impression of being œdematous. Moreover, in severe cases there is actual œdema of the lower part of the legs, ankles, and feet, with pitting on pressure. To a less degree there is the same vascular stasis, with circumfollicular halos, keratosis pilaris, and sensation of œdema on the extensor surfaces of the upper arms. Livedo may be apparent on the forearms, and the hands are blue, cold, and often clammy; their dorsal surfaces and the fingers may be swollen and œdematous, and covered with chilblains of varying severity. In many of these patients there are menstrual irregularities; puberty is often retarded and the periods scanty and infrequent. This is not, however, constant.

The ætiological factors responsible for these characteristics must at present be regarded as uncertain and perhaps complex. The majority of patients are girls who live a sedentary indoor life and whose diet is lacking in fresh vitamin- and mineral-rich food, and it is probable that in the ætiology of the underlying endocrine disturbance, heredity, an unsuitable dietary, lack of fresh air and sunlight, and chronic septic absorption or intestinal toxæmia may all play a part.

*The Thin Subject of Acrocyanosis.*

To come now to the thin type of person with acrocyanosis, examples are met with in both sexes, and the symptoms may begin in early childhood—i.e., before puberty.

The patients are usually of a nervous and emotional temperament in contrast with the phlegmatic calm of the first type, and muscular hypotonus, with a resulting faulty stance and visceroptosis, is a characteristic feature. Loss of vasomotor tone is shown by a tendency to alternate pallor and flushing, by the coldness and blueness of the extremities, and by the static albuminuria sometimes found. This thin type, too, is more susceptible to infection, so that persistent nasopharyngeal catarrh, recurrent attacks of tonsillitis, and tuberculosis are common.

In childhood transient arthritis, endocarditis, and chorea, and in adult life chronic rheumatoid arthritis are found much more commonly in patients of the thin than of the fat type. The latter are also often subject to catarrh, and may develop tuberculosis of the lymphatic glands, in which case, as has been said, Bazin's erythema induratum is a likely complication, but their resistance to infection is undoubtedly greater. In other words, whereas liability to various infections is common to both, the constitutional disturbance is greater and permanent damage to certain organs and structures more likely to occur in the thin type.

*The Hyposphyxial Syndrome.*

Reference may here be made to the hyposphyxial syndrome or "hyposphyxia" of Alfred Martinet,[1] under which term the author gives an accurate clinical description, chiefly as regards the circulatory system, which applies to both the types differentiated above.

An appreciation of this hyposphyxial state is important because the sluggish circulation not only interferes seriously with the general tissue metabolism, but also predisposes to the development of cutaneous and other diseases when a chronic infection is present, since circulating bacteria may become embolised, and their toxins are more likely to produce inflammatory reactions, in situations where the vascular stasis is greatest.

Thus erythema induratum and papulo-necrotic tuberculide, which are respectively subcutaneous and cutaneous tuberculides, are seen only in hyposphyxial persons, and are due to the embolism of tubercle bacilli, carried in the blood stream from some distant tuberculous focus and coming to rest in a subcutaneous or dermic vessel. The hypodermic nodules, described by Dr. Whitfield as the non-tubercular form of erythema induratum and as occurring exclusively in middle-aged women suffering from chronic rheumatism, are similarly due to embolism of streptococci and, perhaps, other organisms.

Lupus erythematosus in its distribution affords a beautiful example of the localising influence of circulatory stasis in a chronic infection. The actual eruption may be due both to circulating toxins and to an actual bacteriæmia: its sites of election are the butterfly or flush area of the face, the ears, and the fingers, and its incidence in the last situation appears to be directly proportional to the degree of the coincident chilblain circulation.

*The Actual Lesions in Chilblains.*

The mechanism of the production of the actual lesion of chilblain is not altogether clear. There is presumably an initial contraction of the small arterioles and capillaries in response to the stimulus of cold, followed by a reactionary vasodilatation. This secondary vasodilatation appears to be accompanied by increased permeability of the vessel wall, with the result that serum, occasionally blood-stained, oozes into the tissues and produces a firm nodule of localised œdema over which the epidermis is stretched. Sometimes the exudation is so intense that an actual bulla is formed, the roof of which is constituted by the entire epidermis. In any case the latter is apt to be damaged, with the formation of a so-called "broken" chilblain. The ulcerated surface thus produced may become secondarily infected, and in severe cases there is considerable tissue-destruction with scar-formation. Not infrequently, if the chilblain condition of the skin persists, a thickening of the horny layer takes place and obstinate painful fissures result. Though usually discrete, chilblains may become confluent, and in the

* An article in this series on the Treatment of Chilblains—II. The Management of the Case, by Dr. Barber—will appear in THE LANCET next week.

[1] Presse Médicale, 1912, xx., 1064.

worst cases the fingers and even the whole hand may be swollen, œdematous, and covered with painful ulcers and fissures. Subjectively the lesions give rise to sensations of burning and intense irritation, causing the patient to scratch and deliberately relieve the tension by breaking through the distended epidermis.

*Ætiology.*—The ætiology of chilblain has already been partially dealt with in the above discussion on acrocyanosis, which is one of the most important predisposing factors. There are, however, several points which must be further considered. The influence of cold is obvious, and the combination of cold and damp is particularly noxious. Given, however, a feeble peripheral circulation, the question arises whether the mere physical action of cold alone on the local vasomotor mechanism is sufficient in itself to produce the lesions of chilblain, or whether cold acts by merely intensifying the vascular stasis already present. As has been pointed out by Dubreuilh and Petges,[2] there is a very close resemblance between chilblain and erythema induratum both anatomically (Audry [3]) and clinically. In fact, one might regard the latter as a subcutaneous chilblain just as the common form of erythema nodosum (in spite of assertions that have been made to the contrary) is undoubtedly the subcutaneous variety of erythema multiforme and angeioneurotic œdema a subcutaneous urticaria.

The suggestion, however, made chiefly by French writers, that chilblains should be considered as a superficial form of erythema induratum, and therefore as a tuberculide, cannot be accepted.

At the same time there is considerable clinical evidence that chilblains may actually be due to bacterial embolism or to the action of bacterial toxins on the cutaneous vessels, thus bringing them into line with erythema multiforme, erythema nodosum and induratum, and lupus erythematosus.

For example, a woman who suffered from Raynaud's disease, with early sclerodactyly, but who had never had chilblains, was operated on for appendicostomy; shortly after the operation an acute *Bacillus coli* infection developed with high temperature of the septicæmic type. In spite of the fact that she was, of course, completely at rest in bed, this febrile attack was accompanied by the appearance of large numbers of typical chilblains on the hands and feet. With the subsidence of the infection they disappeared and have never returned.

The influence of cold could not be invoked in this case, and one can but conclude that the chilblain lesions were produced by a bacteriæmia, with embolism in the cutaneous vessels, or, which is less likely, by the action of bacterial toxins.

Lastly the view, put forward by Sir Almroth Wright, that chilblains, urticaria, angeioneurotic œdema, and the so-called physiological albuminuria are due to lowered coagulability of the blood, which allows the transudation of plasma through the vessel walls and which is associated with a deficiency of calcium, must be referred to. It is responsible for the treatment of these conditions by the internal administration of calcium. Wright's view is certainly not universally applicable.

Dr. W. Payne has kindly estimated the total and ionisable calcium in a few young girls of the fat, acroasphyxial type. In none of them did the figures indicate calcium deficiency, and in some they were above normal. This corresponds with my clinical experience that chilblains in this type of patient are seldom relieved by calcium lactate, whereas the simultaneous administration of thyroid gland and large doses of iodine is usually of great value. On the other hand, calcium salts, parathyroid gland, and cod-liver oil are often very effective in the thin, hypotonic, scrofulous patient with acroasphyxia, not only in improving the general condition and resistance to infection, but also in lessening the tendency to chilblain.

H. W. BARBER, M.B. Camb., F.R.C.P. Lond.,
Physician in Charge of the Skin Dept., Guy's Hospital.

[2] Les engelures, Paris Médical, 1911, p. 330.
[3] Etude de la lésion de l'érythème induré de Bazin, Ann. de Dermat., 1898, p. 209.

# Special Articles.

## PARIS.

(FROM OUR OWN CORRESPONDENTS.)

### *The Treatment of Poliomyelitis by Irradiation and Diathermy.*

IN 1911 Prof. L. Bordier, of Lyons, successfully treated a case of chronic anterior poliomyelitis (Aran-Duchenne type of progressive muscular atrophy) by the application of X rays to the cervical cord, and this led him to use radiotherapy for the treatment of acute poliomyelitis in children. His first results were published in 1921.[1]

During the first fortnight of an attack there is diffuse meningomyelitis of the spinal cord with œdema and hyperæmia. This leads on to atrophy of the motor cells of the anterior horn, and the result is paralysis and trophic disturbance in those muscles whose innervation corresponds to the affected neurons. Treatment with X rays is directed against the central cause of the paralysis, and it is claimed that irradiation diminishes œdema, reduces the small-celled infiltration, and promotes resolution of the inflammatory processes.[2] Experimentally and clinically it has been proved that the application of X rays to the spinal cord of young subjects is without danger.[3]

Radiotherapy, according to Prof. Bordier, ought to be started as soon as possible after the end of the febrile period. The exact site of the lesion can be discovered, if necessary, by testing the electrical reactions of the muscles, and X rays are then applied to the spinal cord at the appropriate level. The dosage needed is about 200 units R at a sitting; 600 R, or three units H, may be given during three successive irradiations, through a filter of 6 mm. of aluminium; and the operator makes use of either one or two ports of entry according to whether the paralysis is unilateral or bilateral. The direction of the beam of X rays ought to be perpendicular to the vertebral discs,[4] and the X ray tube and the patient are, therefore, arranged so that the angle between the principal plane of the tube and the sagittal plane of the body shall be 25 degrees (cervical region) or 30 degrees (dorso-lumbar region). After a course of treatment there is an interval of 25 days; two or three courses may be given according to the state of the patient.

The second therapeutic agent recommended by Prof. Bordier is diathermy of the muscles, which is intended to increase the blood-supply and temperature of the tissues, and thus promote better nutrition of the whole paralysed limb. Diathermy, he states, should be used from the beginning, independently of irradiation, and should be continued until the normal temperature of the limb permanently returns. It can be given daily, or at longer intervals. The technique is simple. A patient whose lower limb is to be treated is made to sit down on a metal electrode, and a second electrode is applied to the sole of his foot. The amount of current should be moderate, and the séance lasts about ten minutes.

Lastly, electrotherapy is valuable, as generally recognised, to restore the tone and function of paralysed or atrophied muscles. This is the third phase of treatment, and needs to be continued for a long time.

Since Bordier's combined method has been put forward it has given very encouraging results, both in his own hands[5] and in those of many others.[6] It has been criticised, of course, and he has replied

[1] Revue Médicale Française, January, 1921.
[2] Atti d. Soc. med.-chir. di Padova, Jan. 29th, 1926.
[3] Monde Médical, May 15th, 1925.
[4] Paris Médical, April 25th, 1925.
[5] Archives d'Elect. méd., October, 1925.
[6] Arch. de Méd. des Enfants, September, 1923. La Pediatria, Sept. 15th, 1924. Jour. Amer. Med. Assoc., June 7th, 1924. Atti d. Soc. méd.-chir. di Padova, Jan. 29th, 1926. Rev. di diag. y. trat. físicos, August, 1925, &c.

to the objections[2]; and his opinions have recently received experimental confirmation.[7] Though the treatment cannot at once cure the more serious cases, where there is a complete reaction of degeneration in many muscles, it considerably improves the prognosis and mitigates the consequences of the disease. In most cases of moderate gravity there is a favourable response, and in view of the unsatisfactory results of other methods, that put forward by Prof. Bordier appears well worth trial.

*A Study of Suicide.*

Under the direction of Prof. P. Toulouse, chief of the dispensary for mental prophylaxis, Dr. Suzanne Serin has just completed a study of suicide as occurring in Paris, and has examined 307 cases. The study shows that suicide is most frequent among males, aged persons, and the unmarried, and that, in spite of the large foreign population in Paris, suicide is limited almost wholly to the French. The main causes are psychopathic states, alcoholism, private cares, incurable disease, and poverty. One-third of the cases she regarded as of psychopathic origin, and half of these presented distinct mental abnormalities, including melancholia, dementia præcox, epilepsy, and traumatic psychoses; the other half showed defective mental balance in alcoholic or epileptic individuals, where suicide was not, she thought, directly related to the alcoholism or epilepsy. Another third of the cases proved directly due to alcoholism itself, apart from alcoholic mental affections. Prevention of suicide, says Dr. Serin, is most difficult in cases of poor mental equilibrium, for here suicide cannot be foreseen. Fairly effective prevention should be practicable in psychopathic cases through more careful organisation of mental dispensaries, clinics, and similar institutions.

*The Centenary of Pinel.*

Philippe Pinel died in 1826 at the age of 81, and the Academy of Medicine has been celebrating his centenary. Prof. Achard gave a masterly account of his life and works, referring especially to his "La médecine rendue plus précise et plus exacte par l'application de l'analyse (1802)" and his "Nosographie Philosophique," which was as a code of medicine for all his generation. Pinel spent most of his time in studying mental disorders, and wrote in 1809 a medico-philosophical treatise on insanity. To disorders of the understanding he tried to apply the same processes of reasoning as were used in ordinary medical practice, and he made great efforts to introduce more humanity into the conduct of asylums and to put an end to the fierce conflicts—far too common in those times—between attendants and patients. In the eyes of posterity this is perhaps his principal claim to glory.

*Prof. Le Dentu.*

One of the masters of French Surgery, Prof. J.-F.-A. Le Dentu, member of the Academy of Medicine and Commander of the Legion of Honour, has died in Paris at the age of 85. He was formerly surgeon to the Hôpital Necker and the Hôtel Dieu, and was professor of clinical surgery in the Faculty of Medicine from 1890 to 1908. He published a number of standard works on operative technique, and in collaboration with Delbet edited a treatise on Surgery in ten volumes.

The Argentine Republic has sent Prof. Enrique Feinmann to study French and Swiss clinics for the treatment of industrial accidents and diseases. He will also examine the organisation of European ministries of labour.

A centre for the re-education of the deaf has been opened by Dr. G. de Parrel at 78 boulevard Malesherbes, Paris.

On Nov. 6th the honorary degree of M.D. of the University of Paris was conferred on Dr. O. Medin, of Stockholm, especially known for his work on epidemic anterior poliomyelitis, and on Dr. C. Chagas, of Rio de Janeiro.

[7] Kraus: Zeit. f. d. gesamte phys. Ther., 1925.

## BUCHAREST.

(FROM OUR OWN CORRESPONDENT.)

*Strong Measures against Venereal Disease.*

A GOVERNMENT Bill embodying the recommendations of many medical authorities is now before the Chamber of Deputies and is likely to become law within a short time. Among the Bill's provisions is one compelling doctors to notify the name of any patient suffering from venereal disease who stops having treatment whilst still a danger to his neighbours. On receiving such a notification the magistrate-doctor will refer the patient to a centre for compulsory treatment. Any person reported to be a source of venereal infection, as well as those who have suspicious-looking rashes, may be compelled to undergo examination by an official doctor unless he can produce a medical certificate stating that he is having treatment or is healthy. Magistrate-doctors will also be obliged to examine every month all boys and girls over 15 years of age in secondary schools, besides hawkers, domestic servants, and many other classes of the community. All those subjected to this monthly examination, except school-children, will be given a health-card which they will have to carry about with them. Where patients are likely to infect others whilst undergoing out-patient treatment they may be forcibly put into hospital. The Bill contemplates such restraint in the first place, for tramps and prostitutes, and in the second for kitchen-maids, waiters, and other public servants, if suffering from oral lesions, facial rashes, and the like. To ensure their adequate accommodation the State will provide funds to aid municipalities in setting up the necessary institutions. The Bill lays down that an infected person is entitled to moral and financial compensation from the one who infected him. Individuals who have infected many others will be prosecuted by the health authorities, even if the violated parties do not demand it. To establish the fact of infection, a thorough investigation must be made and the case must be submitted to a specialist in venereal disease; where syphilitic infection is alleged, the claim must be made within four months from the date of infection. The Bill promises very serious punishment for syphilitic nurses who infect healthy infants and for parents who employ a healthy woman to nurse a syphilitic baby, or board out a syphilitic child with healthy people. No person suffering from any venereal disease will be allowed to marry until completely cured, and registrars will demand a medical certificate from all candidates for marriage, stating that they are free from such disease. Registrars will also be obliged to distribute booklets explaining the perils of venereal diseases to those whose marriages they record. As regards prostitution, the Bill states that only girls above 18 years of age may get licences. Girls younger than 18, if presenting themselves for registration as prostitutes, are to be placed under the care of their parents or else put in reformatories. Where girls wish to give up prostitution the competent magistrates will have to place them in institutions or refer them to employment bureaus, where they can get decent work. The new law is going to ensure the success of the campaign against venereal disease by setting up an antivenereal office, which will have the duty of controlling and supervising prostitution. This office will be provided with special health and morality police, who will, in fact, be detectives.

*A Source of Income for Dentists.*

Some time ago a dentist called Anbock settled in Cluj and by reason of good connexions soon developed a large practice. His method of treating the teeth was very simple. He told the patients that the gold fillings in their teeth were useless and vile work, that

the alloy was bad, and that it had to be changed. He began his methodical treatment by picking out the gold from the properly made fillings; when the teeth again became painful he replaced the gold with a valueless yellow alloy which, he said, was pure gold, prepared after his special method, patented in all foreign countries. By the time that the patients had begun to feel a peculiar taste in their mouths the eminent dentist had made his escape. The unfortunate patients were informed by other dentists that the fillings which the swindler had put in were only exploratory fillings, and accordingly reported their misfortunes to the police. The culprit, however, has moved on to Jugoslavia.

*Prohibition of Secret Remedies.*

The Bucharest Health Board has issued an order that all so-called patent medicines be removed from drug stores and chemists' shops within three months. These drugs are called secret remedies in Rumania because they bear on the label no indication of the ingredients they contain. Instructions have been issued to all custom houses that no foreign medicinal preparations of this kind be allowed to enter the country, even if marked as samples of no declared value, and any custom house officer convicted of permitting such medicines to pass will be suspended from his position.

## IRELAND.

(FROM OUR OWN CORRESPONDENT.)

*County Medical Officers of Health.*

UNDER the Local Government Act, 1925, it became the duty of county councils throughout the Irish Free State to appoint whole-time medical officers of health for each county. Last week the Department of Local Government and Public Health sent a letter to the several councils, reminding them of this duty, and offering to send a medical inspector to explain their position. The reception so far given to the letter has been chilling. The Galway and Wexford councils have flatly declined to take any steps, and several other counties have postponed a decision. It will evidently require more than moral suasion to get the local authorities to move. A salary of £800 was mentioned in more than one county as suitable for their medical officer, though there are few, if any, areas in the Free State in which the salary, on the British Medical Association scale, should not be at least £1100. As most of the supply of medical officers of health must come from England, an attractive salary will be necessary in order to secure competent men. Again, some of the inspectors seemed to suggest that the county medical officer of health should be a jack-of-all-trades, that he should personally be occupied in the medical inspection and treatment of school-children, and in such duties. It is unfortunate that the Minister has, as yet, taken no steps to set up a consultative council, such as is provided for by the Act.

*The Milk Supply of Ireland.*

The Government of the Free State has recently appointed a Commission on Milk Supply, and last week it was engaged in hearing expert evidence. Dr. J. W. Bigger, professor of bacteriology and preventive medicine in the University of Dublin, urged the grading of milk, and suggested three grades in addition to pasteurised milk, the highest being from tuberculin-tested cows. There was at present no incentive, he said, to supply pure milk, as the price charged was the same as that paid for impure milk. Penalties should be imposed on anyone who sold milk below a specified standard; if the practice persisted the penalty should be exclusion from the milk trade. Dr. J. D. McCormack, Local Government Department inspector, attributed the apathy of local authorities in regard to the Dairies Order to want of knowledge. He recommended closer coördination between urban and rural authorities. A maximum price for milk should be fixed according to grade. Mr. O'Donovan, veterinary surgeon, giving evidence on behalf of the Dublin Corporation, said that the corporation staff should have power to supervise milch cows belonging to the city, even when removed for summer grazing outside the county borough area, and also to supervise the sources of rail-borne milk, where tubercle bacilli had been found.

The first general meeting of the Irish Clean Milk Society was held on Nov. 25th, when Mr. W. Buckley, Chairman of the British National Clean Milk Society, gave an address. He said that America was 25 years ahead of Great Britain so far as the milk-supply was concerned, and pointed out that a great deal more could be done by education than by coercion.

*A National Medical Service.*

At the annual meeting of the Association of Trade Union Approved Societies held recently the President, Mr. L. W. Duffy, made a strong plea for a national medical service in the Irish Free State. He said that every country in Europe, except Ireland, had rejected the British system of approved societies. The societies had degenerated into benefit-paying organisations on the lines of the old tontine society, and no serious effort was made to prevent illness or cure disease. The mortality from tuberculosis was again on the increase, and the maternal mortality was alarming. Medical benefit on a contributory basis was no substitute for a national health service, and when the public realised what was at stake, and began to appreciate the ravages of the present system, they would demand a national service, even if it were to cost twice as much.

*Cancer Research in Dublin.*

The principal Irish medical colleges and schools, as well as other bodies, are represented on the committee of the Cancer Research Institute which is to be set up in connexion with the Royal City of Dublin Hospital. Mr. Justice Wylie has been appointed chairman of the committee, Dr. Louis Cassidy honorary secretary, and Mr. Hubbard Clark honorary treasurer. The hospital is going to take over the Erlangen apparatus hitherto worked at the Coombe Hospital, and will furnish a laboratory with other facilities for research work; but Sir John Lumsden, a member of the committee, has denied the report that the committee has been formed to carry on the Erlangen treatment. Its object, he says, is not to advocate any particular form of treatment, but to investigate the origin and treatment of cancer.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH.—On Nov. 9th Prof. Ashley Mackintosh reviewed the groups of causes known to influence or coöperate in the production of arterio-sclerosis, and emphasised the importance of removing them. They included "tear and wear," especially from worry, and infective or toxic causes not necessarily of gastro-intestinal origin. In this connexion he professed himself a believer in an hereditary variation in the viability of the vessels. Prof. Mackintosh was emphatic in his statement that the sufferer from hypertension should be prevented from concentrating his attention on his malady, and for this reason deprecated the too frequent recording of blood-pressure readings, which led to a "hypertension hypochondriasis" (Osler and McCrae). He found greatest benefit from a mode of life which involved as little interference as possible with habits, work, and food, especially in elderly patients. He did not drastically reduce protein but allowed 3–5 oz., especially of white meat, per day, believing that too much stress had been laid on the dangers of giving protein. Diets must not be cut down so far as to lower the patient's general condition. He outlined the proper care of the skin and bowels and strongly advocated the weekly or bi-weekly use of calomel. Before describing other medicinal treatment he discussed the question how far hypertension was a compensatory function, and showed that it was not apparently compensatory so far as the kidney was concerned, there being no proved relationship between the power of concentrating urea and the blood pressure. Prof. Mackintosh referred to other methods of treatment by venesection, by electrical methods, and especially by diathermy, and in conclusion urged the importance of watching the heart carefully.

# MEDICINE AND THE LAW.

### *An Unregistered Specialist.*

WHAT is a "specialist"? If a man calls himself a specialist in canine diseases, does not the description amount to a claim that he is "specially qualified" to practise veterinary surgery or some branch thereof within the meaning of Section 17 of the Veterinary Surgeons Act of 1881? Mr. Gill, the Westminster Police-court magistrate, has answered the latter question in the affirmative. A blacksmith who advertised his business as including "veterinary farriery" was held in 1892 to be within the section; so also was a defendant who used the description "canine specialist; dogs and cats treated for all diseases"—this being the decision in Royal College of Veterinary Surgeons v. Collinson ([1908] 2 K.B., 248), which Mr. Gill expressly followed. Section 17 punishes with a fine not exceeding £20 anyone who, not for the time being on the register of veterinary surgeons nor having been on August 27th, 1881, the holder of the veterinary certificate of the Highland and Agricultural Society of Scotland, "uses the title of veterinary surgeon or veterinary practitioner, or any name, title, addition or description stating that he is a veterinary surgeon or a practitioner of veterinary surgery or any branch thereof, or is specially qualified to practise the same." The defendant in the recent case was Mr. Edward Sewell, described in the *Times* report as having been for many years in practice as a veterinary surgeon and canine specialist in South Kensington. He used the offending words "specialist, canine diseases" on the receipt to a bill. It was argued on his behalf that recent decisions have shown a trend towards greater laxity in favour of the unregistered practitioner. Mr. Gill, however, did not agree; he fined the defendant £2 and £10 10*s.* costs, and undertook, if desired, to state a case for a higher court.

The comparative effect of professional registration is well known. No unregistered dentist may practise, or hold himself out as practising or as being prepared to practise, dentistry—an absolute monopoly. No unregistered veterinary surgeon may call himself a veterinary surgeon or veterinary practitioner—a substantial monopoly. But, as was mentioned lately when discussing Lieut-Colonel Kynaston's case, an unregistered medical practitioner has (subject to limitations as to signing death certificates, &c., and as to the Dangerous Drugs Acts) full liberty to practise, so that the registered medical practitioner has virtually no monopoly at all.

### *Sale of Poisons: Lysol "free from Carbolic Acid."*

The Pharmacy Acts and the various enactments about poisons are so complicated that it is high time the law was simplified. Administration, too, might be coördinated, even if this involves the surrender by the Privy Council of some of its surviving powers in this respect. Two months ago an Edinburgh prosecution under the Pharmacy Act in connexion with the sale of a bottle of "lysol" drew fresh attention to the obscurity of the law. As experts are aware, there is a subtle legal distinction between the label "Poison" and the label "Poisonous." Section 17 of the Pharmacy Act of 1868 (amended by the Dangerous Drugs and Poisons (Amendment) Act of 1923) requires that poisons shall be labelled with the word "Poison," the name of the poison, and, if poison is merely one of the ingredients of a preparation, with particulars of the proportion of the poison to the other ingredients. The poisons which must thus be labelled are those in the schedule of the 1908 Act, and certain others added by the Privy Council on the recommendation of the Pharmaceutical Society. The schedule includes "carbolic acid and liquid preparations of carbolic acid and its homologues containing more than 3 per cent. of those substances," with certain exceptions for sheep-wash and other agricultural and horticultural preparations. Another part of the 1908 Act (Section 5) says that certain acids are not to be sold by retail unless the bottle or vessel containing them is labelled with the name of the substance, the word "Poisonous," and the name and address of the seller. The acids include sulphuric, nitric, and hydrochloric acid, soluble salts of oxalic acid and other substances prescribed by Order in Council; an Order in Council of 1912 added "all liquid substances sold as carbolic or carbolic acid or carbolic substitutes or carbolic disinfectants containing not more than 3 per cent. of phenols."

Last September an Edinburgh druggist's assistant sold a bottle of lysol. On the carton were the words "Free from Carbolic Acid." It was labelled "Poisonous," and to that extent it complied with Section 5 of the 1908 Act; but it was not labelled "Poison," and so it did not comply with the amended Section 17 of the 1868 Act. The assistant was summoned for having failed to comply with the latter requirement, the lysol being "a liquid preparation containing more than 3 per cent. of carbolic acid and its homologues." A report of the case published in the *Analyst* shows that Mr. J. Rutherford Hill, resident secretary of the Pharmaceutical Society, said that analysis of the bottle disclosed approximately 31 per cent. by weight of carbolic acid and its homologues, commonly known as cresols; he thought the label "free from carbolic acid" could not be true, and was misleading. The city analyst gave confirmatory evidence, but was unable to say whether the bottle contained sufficient carbolic acid to make it poisonous; nor had either witness, it appears, determined the exact amount of carbolic acid actually present. The defendant admitted selling the bottle, but said he did not know lysol was a poison. The label "free from carbolic acid" conveyed no special information to him: he knew nothing of carbolic acid or its effects. The sheriff held the charge not proven on the ground that there was no definite proof before him of the presence of carbolic acid in the bottle or of its presence in a quantity making the liquid a poison within the schedule. He remarked that the label "free from carbolic acid" would suggest to an unskilled person that in selling the lysol he was not selling carbolic acid, and he added that only a skilled person would understand the meaning of homologues of carbolic acid. These remarks suggest that, even if the missing proof had been abundantly supplied, the sheriff would have hesitated to inflict a heavy penalty upon the druggist's assistant. In other words, though ignorance of the law is no excuse, the law is in so technical a state that magistrates will not punish the ordinary citizen for breaking it.

### *Vaccination: Conscientious Objector's False Declaration.*

It is the common experience of those who practise law in criminal courts that for some reason convictions for perjury are hard to obtain, and punishments for perjury are often lenient. Thus, prosecutions which should have the effect of deterring prospective perjurers end by deterring prospective prosecutors. Last year's Criminal Justice Act handed over to quarter sessions and to courts of summary jurisdiction the power to deal with offences under Section 5 of the Perjury Act (false statutory declarations). The delegation of jurisdiction may lead to more convictions if it also leads to still smaller sentences. Under the Vaccination Act of 1907 a parent must make a statutory declaration of conscientious objection within four months of the date of a child's birth. In a case recently heard before the Kingston justices a vaccination officer had pointed out to a parent that the latter had not completed an exemption form in respect of his infant daughter nearly 5 months after her birth. The father thereupon made a declaration at the magistrates' clerk's office that his daughter was born on May 30th, though the correct date was April 30th. The defendant pleaded that he had made an honest mistake, and added that he had been away from home when the child was born. The Bench presumably did not accept this plea entirely, for, if

successful, it would have involved acquittal. They fined the father £3, stating that they believed he had acted hastily and without thinking what he was doing.

*Acquittal of Two Doctors on a Charge of Manslaughter.*

On Nov. 30th at Manchester Assizes Dr. Arthur Stuart Holden and Dr. Frederick Langton Webster were acquitted on a charge of manslaughter in connexion with the death of a young woman who had succumbed in Dr. Webster's surgery. The accused were committed for trial for murder on a coroner's warrant following an inquest at Bamber Bridge on Oct. 29th, but the charge was later reduced. There was a preliminary hearing of the case before the Bamber Bridge justices on Nov. 5th and 8th. The defendants denied the suggestion that an illegal abortion had been performed and stated that the patient had died during an examination under an anæsthetic. Sir Bernard Spilsbury, who examined organs sent to him, and Dr. W. A. Simpson, acting police surgeon, who conducted the post-mortem examination, found circumstances which led them to form certain suspicions, but Dr. T. Watts Eden, who was called by the defence, said that he did not agree that there was any conclusive evidence of an instrument having being used or an operation performed. Dr. W. Fletcher Shaw and Dr. D. Dougal also gave evidence to the same effect. Dr. S. R. Wilson considered that the manner of death was consistent with death from syncope under a light anæsthetic. Mr. Justice Branson, in summing up, pointed to the irreproachable character of both accused doctors, and the jury after 15 minutes' deliberation, brought in a verdict of Not Guilty, with which the judge said he entirely agreed.

Dr. Holden and Dr. Webster were defended by the London and Counties Medical Protection Society.

# Public Health Services.

## REPORTS OF MEDICAL OFFICERS OF HEALTH.

THE following are some of the statistics of four administrative counties for 1925:—

| Name of county. | Estimated mid-year population (R.-G.). | Birth-rate. | Death-rates per 1000 of the population. | | | | | Death-rates per 1000 births. | |
|---|---|---|---|---|---|---|---|---|---|
| | | | All causes. | Tuberculosis. | Cancer. | Resp. diseases with influenza. | Heart disease. | Infant mortality. | Maternal mort. from childbirth. |
| Lancashire.. | 1,785,500 | 15·9 | 12·7 | 0·88 | 1·27 | 2·7 | 1·7 | 82 | 5·2 |
| Essex .. .. | 958,700 | 17·1 | 10·3 | 0·87 | 1·36 | 1·6 | 1·5 | 52 | 3·0 |
| Somerset .. | 398,000 | 15·5 | 12·2 | 0·78 | 1·50 | 2·0 | 1·9 | 51 | 4·2 |
| Gloucestershire .. | 334,000 | 16·7 | 12·4 | 0·87 | 1·53 | 1·9 | 1·9 | 56 | 4·5 |

*Lancashire.*

Dr. J. J. Butterworth shows by tabular statements, diagrams, and maps the great changes during the last 30 years in various rates in the 121 districts which make up the administrative county. Thus, comparing the first quinquennium of this period with the last, the birth-rate has fallen from 28·34 to 19·13, the death-rate from 17·64 to 12·61, the infant mortality rate from 167 to 85, and the death-rate from respiratory tuberculosis from 1·19 to 0·72. The maps show that whereas in 1891–95 23 of the 121 districts had death-rates of 20 and upwards and 70 had death-rates of from 15 to 20, in 1921–25 there were no districts with death-rates of 20 and upwards, and only 7 with death-rates from 15 to 20. Other maps show that whereas in the earlier quinquennium 65 of the districts had infant mortality-rates of 150 and upwards and 46 had rates from 100 to 150, in the later quinquennium no districts had infant mortality-rates of 150 and upwards, and only 19 rates of between 100 and 150. Five of the districts have no hospital accommodation for small-pox and 12 have no accommodation for other infectious diseases. On June 30th, 1926, there were 901 county patients in tuberculosis hospitals, 677 being adults and the remainder children.

The county has arranged with 11 hospitals for the operative treatment of tonsils and adenoids, and adequate provision has been made for following-up, re-examination, and after-treatment. Under the council's scheme 598 children received operative treatment during 1925. The dental scheme has been extended and clinics established at 15 centres. The dental staff consists of seven full-time surgeons and one part-time surgeon. The scheme comprises the routine treatment of the 6-year olds and the following-up of this group in subsequent years. Apart from this routine work the dentists treat expectant and nursing mothers, children under school age, and "casuals." These last include cases made urgent by pain or abscess and cases where the child's health is suffering from the state of the teeth. It is impossible under this scheme to inspect and treat the older children. A mass of details are given in the report with regard to the sanitary circumstances of the 121 districts. Under the heading of Smoke Abatement we learn that 3129 observations were made and that the number of legal proceedings was 28. The time limit for the emission of black smoke permitted by the different local authorities varies from three minutes in the hour to the very high limit of 12. The medical officers of about a hundred districts state that there is a shortage of houses. The County Public Health Department had 66 samples of milk examined for tubercle bacilli, which were found in five of them. The officials of 28 of the local authorities submitted 366 samples, of which 39 contained tubercle bacilli. The County Health Department helped the Lancashire Milk Recording Society with its second "Clean Milk" competition, but there were only seven competitors. Out of 2990 milk samples 12·8 per cent. were reported to be adulterated, deficient or dirty, as compared with 9·4 per cent. in 1924. The samples from one vendor contained formaldehyde.

There were 178 notifications of encephalitis lethargica during the year, with 98 deaths. The districts with the highest death-rates from pulmonary tuberculosis were Litherland with 1·72, Ormskirk with 1·57, and Audenshaw with 1·45. Of the 729 midwives, 80 per cent. are qualified by examination and the remainder are "bona fide." There were 93 notifications of puerperal fever and 25 deaths. This high case-fatality is taken to indicate the incompleteness of the notification. The Registrar-General gives the number of deaths from puerperal sepsis in the county area as 41.

An inquiry was made as to the present condition of the eyes in cases of ophthalmia neonatorum reported during the years 1919 to 1923. The tabular statement appears to indicate an improvement during the later years, as the number of totally blind children was two for 1919, three for 1920, two for 1921, and none for 1922 and 1923. (During 1925 out of 14 notified cases there was one case of total blindness and five of impaired vision.) Since April, 1919, the whole of the medical and nursing staffs of the Education Committee and Health Committee have been amalgamated, and children are now being looked after by the same doctors and nurses from birth or before until they leave school. This has proved a great advantage. An experiment has been made in giving a course of lectures and demonstrations on baby management to school-girls aged from 11 to 13 at one of the centres. Those who attended showed intense interest and great eagerness to learn. The county council's child welfare area comprises 74 districts; in the remaining 47 the local sanitary authorities are responsible for the child welfare work. The orthopædic scheme will shortly be complete. For the Manchester area there is the Ancoats Hospital, with a country hospital at Windermere and six out-patient centres, with Mr. Harry Platt in charge as consulting orthopædic

surgeon. For the Liverpool area the central hospital is in Myrtle-street, Liverpool, and the country hospital at Heswall, on the Dee, with Mr. T. P. McMurray as orthopædic surgeon and Sir Robert Jones as consultant. Up to the present time five out-patient centres have been set up in the Liverpool area. The county council has purchased the Biddulph Orthopædic Hospital, which is beautifully situated in North Staffordshire, only 28 miles from Manchester, and stands in its own grounds of 91 acres. When this hospital has been made thoroughly up to date it will serve the portion of the county other than the areas allocated to Liverpool and Manchester.

*Essex.*

Dr. W. A. Bullough reports that 22,628 houses were erected during the five years 1920–24. The figures are not available for 1925, but he states that the rate of building is now more than meeting annual requirements, and should tend to relieve some of the gross overcrowding. A new appointment has been made of a senior clinical ("part-time") tuberculosis officer. In the absence of a much-needed central sanatorium a scheme for large extensions at Black Notley has been put forward, which, if approved by the Ministry, will result in the first up-to-date sanatorium in the county. There are now eight tuberculosis care associations in the county doing excellent work, chiefly in populous districts. At the end of 1925 the county council was the authority under the Notification of Births Act in 26 out of the 47 sanitary districts, and in order to avoid confusion and overlapping Dr. Bullough would like the county council to be the sole authority for all rural districts and those urban districts which are not education authorities. The combined medical service by which local medical officers of health become assistant county medical officers for the purpose of tuberculosis, school inspection, child welfare, venereal diseases, and supervision of midwives, and which was begun in 1920, has now been extended to 33 of the 47 districts, and Dr. Bullough, after five years' experience, is satisfied that the standard of the health services has been raised thereby.

Dr. Bullough claims that his county has the greatest number of farms producing Grade A milk.

Reviewing the situation of isolation hospitals and small-pox hospitals, he emphasises the advantages both in economy and efficiency of pooling the accommodation in all the hospitals in the county. If this were done, he says, half the isolation hospitals would serve the needs and the remaining half could be used for advanced tuberculosis, open-air schools, maternity hospitals, and convalescent homes for orthopædic patients. A greater variety of infectious diseases could also be admitted, because particular hospitals could be allocated to particular diseases. The county council is chary about undertaking the adequate examination of milk for tubercle. Thus the number of biological tests for the year ending March 31st, 1926, was limited to 15. Other matters dealt with by Dr. Bullough are: the nuisance caused by the dumping of London refuse on the low-lying land in the S.E. of the county; the progress of the town-planning scheme for the area between Shoeburyness and East Ham; and the water-supply of the county. The Stour appears to be one of the most likely sources for future needs, but this river belongs to Suffolk. Other possible sources are the rivers Colne and Roding. The county sanitary inspector deals with some of the difficulties in obtaining a pure milk-supply owing to the deep-rooted objection of a certain class of cowmen to any change in habits.

*Somerset.*

Dr. W. G. Savage reports 52 notifications of encephalitis lethargica, with 24 deaths. He, like Dr. Bullough, condemns the present wasteful and unsatisfactory system of having a number of small isolation hospitals under different authorities scattered through the county, whereas, "with present facilities for travel, a few hospitals could well serve the needs of the county with economy in cost and a great improvement in the quality of treatment provided." The county sanatorium at Quantock was opened in June, 1925, with 61 beds, 30 for men and 31 for women. The results after a year are very encouraging. The number of contacts attending the dispensary for examination was 21·9 per cent. as compared with 20·8 per cent. in 1924. Over 32 per cent. of the pulmonary tuberculosis contacts showed suspicious or definite signs of tuberculosis in both years. Unused buildings at Quantock were utilised as a summer camp for weakly children with most satisfactory results. Dr. L. J. Short, the tuberculosis officer, reports that of 1589 new cases examined 495 were diagnosed as having pulmonary tuberculosis. Of these 495, 203 were only in stage 1, "and experience has shown that nearly all these are likely to get well." Every year, says Dr. Short, it has been possible to write off a number of persons as cured and unlikely to relapse, and the number of ex-patients in full regular work continues to increase. These results are so very different from those reported elsewhere that Dr. Short cannot help wondering if there is something specially favourable in the Somerset air, constitution, or tuberculosis scheme. Trained midwives attended 53·8 per cent. and "bona fide" midwives 2·6 per cent. of the births. The trained midwives sent for medical aid in 27·5 per cent. of their cases, the "bona fide" in 11·9 per cent. There were 22 notifications of puerperal fever with 10 deaths, and Dr. Savage would like to see these cases removed in the early stages to hospital. The isolation hospitals would be the most suitable if an efficient staff were available. There were 30 notifications of ophthalmia. Though there was no complete loss of sight, there were four cases with probable definite impairment of vision. Here again Dr. Savage advocates immediate hospital treatment for all severe cases. In September a comprehensive scheme for dealing with crippled children was begun. Twenty-four beds were retained at the Bath Children's Orthopædic Hospital, and a number of centres are provided throughout the county at which the orthopædic surgeon and nurse attend. All varieties of crippling defects are included in the scheme A fuller account will be given of the results achieved in next year's report. The pollution of rivers from milk depôts gave little trouble during 1925. The number of houses erected, 1386, was a considerable increase on any of the previous three years, the numbers of which were 995, 646, and 973. Meat inspection is carried out well in some districts, poorly in others. During the year the county council provided a special course of lectures and demonstrations for the sanitary inspectors of the county at the well-equipped Weston-super-Mare public abattoir. About 30 inspectors attended. Dr. Savage finds that in some cases butchers who give written notice of intention to slaughter at fixed times on fixed dates in some cases slaughter at other times without giving the required notice and so avoid inspection. Graded milks make some progress; thus at the end of 1925 there were in the county 4 producers of Certified Milk, 5 of Grade A (tuberculin tested), and 4 of Grade A, to be compared with 1, 1, and 2 respectively for 1924.

*Gloucestershire.*

Dr. J. Middleton Martin made an inquiry into the geographical distribution of fatal diseases in his county during the decade 1901–10. He has followed this with a similar inquiry for the decade 1911–20. The general result of the earlier inquiry was the conclusion that the most important factor was the circumstances of the home as opposed to the more remote environment. In comparing the two decades it is to be noted that at the earlier period the deaths under one year and the deaths from one to five years constituted 15 and 6 per cent. respectively of the total deaths, whereas during 1911–20 the deaths under one year were only 10·2 per cent. and the deaths from one to five years 4·4 per cent. of the total mortality. The evidence from the study of the

geographical distribution of disease brings out the fact that there is a very large incidence of enlargement of the thyroid gland among school-children in the area following the Cotswold Hills from the north-east of the county to the outskirts of Bristol, with parallel bands of low incidence following the Severn and of very low incidence on the west of the Severn. There are two curious exceptions. West Dean R.D. has a high rate in the area of lowest incidence, while Stow-on-the-Wold R.D. has a very low rate in the area of high incidence. On the Cotswolds the water is usually hard and pollution not more than in other places. The local waters in the Severn valley are also hard. On the west of the Severn the most striking fact is the exceptionally high rate for West Dean, which surrounds an urban district, of almost identical circumstances, with a very low rate. The contrast between the west and east sides of the forest may be due to the fact that West Dean has a doubtful water-supply, whereas the east side of the forest has mostly a public water-supply of good quality. Other conclusions resulting from this inquiry were that pediculosis in the head is most prevalent in agricultural districts and in areas where there is much female labour; that the distribution of pulmonary tuberculosis tends to be the converse of that for other forms of tuberculosis, and that bronchitis seems to be an illness of sheltered rather than of exposed conditions, whilst the reverse holds for pneumonia. In the surveys for both decades Dr. Martin suggests that the lesson may be—the great importance of the immediate as compared with the remote environment.

During 1925 midwives attended 64 per cent. of the births and sent for medical help in over 28 per cent. of their cases. It is now very rare for an uncertified woman to act as a midwife. The scheme for the extension of medical services makes steady progress with a corresponding lessening of expense. Thus if 1925 be compared with 1922 the total cost per attendance has been reduced from 15*s.* 6*d.* to 7*s.* 11¾*d.*; the cost of medical officers per attendance at out station from 4*s.* 3½*d.* to 2*s.* 0½*d.*; and the cost of specialist's services per case from 12*s.* to 8*s.* 8½*d.* The work is carried out at three general hospitals and 11 out stations. The chief feature of the scheme in 1925 has been the extension of the orthopædic service. The orthopædic surgeon is Mr. J. S. Robinson, of the Cheltenham General Hospital, at which institution ten beds have been retained. An orthopædic nurse began work in November. The future development of this service is at present under consideration, and the construction of a hospital for crippled children may be the result.

Progress has been made, as the result of better transport facilities, in making the isolation hospitals serve wider districts. The year 1925 saw greater activity in the provision of houses, and an encouraging feature is the steady increase in the number of houses built by private enterprise from 53 in 1919 to 718 in 1925. Dr. Martin hopes that more will be done in the way of renovation and enlargement of existing houses, and is of opinion that the grants for repairing work which will shortly be available will act as a valuable stimulus to improved housing.

## INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED NOV. 20TH, 1926.

*Notifications.*—The following cases of infectious disease were notified during the week: Small-pox 353 (last week 218), scarlet fever 2110, diphtheria 1133, enteric fever 55, pneumonia 1123, puerperal fever 57, puerperal pyrexia 166, cerebro-spinal fever 7, acute poliomyelitis 47, acute polio-encephalitis 4, encephalitis lethargica 46, dysentery 6, ophthalmia neonatorum 90. There were no cases of cholera, plague, or typhus fever notified during the week. The total of cases of acute poliomyelitis and polio-encephalitis taken together—namely, 51—is substantially higher than last week, 10 cases having been notified from the County of London, 3 of them from Wandsworth, the others widely scattered; the other counties reporting more than 3 cases were Devon 4, Lancaster 4; there were no cases reported from Rutland and only 3 from Kent—namely, 1 each from Beckenham, Tunbridge Wells, and Eastry R.D. Of the 353 cases of small-pox, 288 were reported from the county of Durham, only 5 of these from Gateshead C.B., the remainder scattered over 18 urban and rural districts, Brandon and Byshottles standing first with 92, Lanchester second with 41; Northumberland reported only 4 cases, 1 from Newcastle C.B., 3 from Ashington; the West Riding of Yorkshire reported 38 cases—viz., 3 from Sheffield, 6 from Doncaster, 12 from Mexborough, and the remainder from seven urban and rural districts; Derby reported 16 cases, 4 from the county borough, the others from five districts; Lancaster reported 5 (Ashton-in-Makerfield 4, Golborne 1); Nottingham 1 (Sutton-in-Ashfield); Yorks, North Riding 1 (Middlesbrough).

*Deaths.*—In the aggregate of great towns, including London, there was no death from small-pox, 1 (0) from enteric fever, 6 (1) from measles, 3 (0) from scarlet fever, 28 (3) from whooping-cough, 32 (10) from diphtheria, 68 (15) from diarrhœa and enteritis under 2 years, and 78 (19) from influenza. The figures in parentheses are those for London itself.

# The Services.

## ROYAL NAVAL MEDICAL SERVICE.

THE following appts. have been notified:—Surg. Comdrs.: J. G. Danson to *Maidstone*; G. O. M. Dickenson to *Victory*, for Royal Marine Infirmary, Portsmouth; and F. E. Anley to *Weymouth*, and as Fleet Medical Officer.

Surg. Lt.-Comdr. G. L. Ritchie to *Lowestoft*, on recommg.

Surg. Lts.: D. H. Kernohan to *Ganges*, for R.N. Sick Quarters, Shotley, temp., addl; and J. F. Kirwan to *Adamant*.

### ROYAL NAVAL VOLUNTEER RESERVE.

Prob. Surg. Lt. R. B. H. Wyatt to be Surg. Lt.

Surg. Lt. T. W. Drummond to be Surg. Lt.-Comdr.

## ROYAL ARMY MEDICAL CORPS.

Maj. O. C. P. Cooke retires on retd. pay, and is granted the rank of Lt.-Col.

Capts. H. D. F. Brand and C. Armstrong to be Majs.

Capt. W. I. F. Powell is secd. for duty with the Sudan Def. Force.

### TERRITORIAL ARMY.

Maj. W. F. Munro resigns his commn. and is granted the rank of Lt.-Col. with permission to wear the prescribed uniform.

D. G. Robinson to be Lt.

Capt. M. C. Paterson, R.A.M.C., to be Divl. Adjt., 50th (Northumbrian) Div., vice Capt. J. M. Mackenzie, vacated. Lt. E. L. Hancock is secd.

## ROYAL AIR FORCE.

Flight Lt. P. A. Hall is promoted to the rank of Squadron Leader.

Flying Officer J. Parry-Evans is promoted to the rank of Flight Lt.

Temp. Capt. J. R. Williams, General List (Army), Dental Surgeon, is granted a temporary commission as a Flight Lt.

Flight Lt. J. S. Smith (Capt., Army Dental Corps) relinquishes his temporary commission on return to Army duty.

## INDIAN MEDICAL SERVICE.

The King has approved the relinquishment of their temporary commissions by the following officers: Capts. Dhirendra Prasad Bose, Gopal Das Malhotra, Balkrishna, M.B., Aswini Kumar Nandi, Pramatha Nath Ghosh, Palathunkal Mathen Matthai, Antonelli Saldanha, Chhaganlal Motichand Contractor, Amulya Prasad Maitra, Mancher-shaw Ardeshir Mithavala, Madhav Vithal Pathak (these officers are permitted to retain the rank of Capt.). Sobha Ram Puri, Narayan Das Mehta, Munshi Ram Gupta, Jiban Ratam Dhar, Hem Chandra Mitter, Rustim Edulji Dadachanji, Vishnu Kashinath Parab, Jehangir Hormusjee Clarke.

Maj.-Gen. Sir Charles Mac. Watt has retired from service.

Dr. Kashi Prasad Bhatnagar, of the temporary Provincial Medical Service, medical officer in immediate charge of the Chamoli Dispensary, Garhwal, to officiate as Civil Surgeon, Garhwal, during the absence on leave of Dr. L. V. Jaensch.

Maj. E. G. A. Mathews, Civil Surgeon, on return from leave, is posted to Hardoi.

Dr. Ganga Prased Rawat, officiating Civil Surgeon, is posted to Jalaun (Orai) from Hardoi.

Dr. Ganga Charan Garg, of the Provincial Medical Service, Medical Officer in immediate charge of the Sadr Dispensary, Rae Bareli, to the District Jail, Lucknow, for temporary duty.

Col. G. Tate succeeds Col. A. W. R. Cochrane as Inspector-General of Civil Hospitals of the United Provinces.

Dr. A. C. Bentley, Director of Public Health, Bengal, is granted an extension of leave for 16 days.

# GENERAL MEDICAL COUNCIL.

## PENAL CASES.

TUESDAY, NOV. 23RD.

IN accordance with the usual custom the penal cases were heard in public, the Council deliberated on them in camera, and the results were then announced.

The Registrar read reports by the Dental Board of the United Kingdom on the cases of William Laird, registered on Feb. 18th, 1925, as of 6, Hartington-street, Belfast, "Dentist, 1921," charged with employing persons to canvass for him; of Hubert Lancelot Terry Bramley, registered on Jan. 6th, 1923, as of 13, Bracton-drive, Gordon-road, Nottingham, "Dentist, 1921," charged with personal canvassing; and of John William Marsh, registered on Sept. 11th, 1922, as of "Glenthorne," High-street, Thame, Oxon, "Dentist, 1921," who had been convicted and imprisoned for obtaining goods on false pretences. The Board had considered that the names of all these practitioners should be erased from the Dental Register. The Council ordered that they be erased.

*The Case of Hira Lal Basu*, registered as of 87B, Park-street, Calcutta, India, L.M.S. Calcutta, 1899, F.R.F.P.S. Glasg., 1913. This practitioner had been summoned to appear before the Council on the charge of advertising his arrival in Rangoon by paragraphs in local newspapers in 1925, and by causing articles to be published in these papers in which he claimed to be able to perform the "Steinach operation" for rejuvenation. Mr. Basu did not appear and was not represented. The Council's solicitor read a letter from him in which he stated that an acquaintance had lured him to Rangoon with the promise of a 3000 guinea fee, and that the offending matter was published without his knowledge. The Council ordered that his name be erased from the Register.

*The Case of Egerton Carl White*, registered as of 238, High-street, Cheltenham, M.B., Ch.B., 1912, U. Glasg., charged with abusing his position by committing adultery with a married woman with whom he stood in professional relationship. Dr. White was represented by Mr. O. Hempson, solicitor. The solicitor for the Council stated that Dr. White had performed two operations on Mrs. Watson in 1922 and that in September, 1924, they had started to live together. A divorce had been granted to Mr. Watson in May, 1925, and made absolute in November, 1925. Dr. White, giving evidence in his own defence, stated that he had first met Mrs. Watson socially at the end of 1921, and had become her friend and then her lover. Their sexual relationship had begun shortly after Christmas. They would have gone away openly then, but that Dr. White was in debt to his wife's family for certain capital with which he had set up in practice, and until he had paid this off he did not feel he was justified in taking that step. Mrs. Watson suffered from dysmenorrhœa and had naturally asked his advice; he had recommended curettage and she had preferred that he should perform this operation. He had done so twice in 1922. He had exercised his medical skill as a friend and not as a professional man and had rendered no account. In 1924, since he had then cleared himself of debt, he and Mrs. Watson made their relationship public. Mrs. Watson corroborated. Cross-examined about a sum of money Mr. Watson said he had given her to pay for her operation, she stated that she had asked for it for other purposes. There was no evidence that the sum was paid to Dr. White. The Council found that the facts alleged against Dr. White were not proved to their satisfaction and dismissed the case.

*The Case of Thomas Blaney*, registered as of 17, Saville-place, London, S.E. 1, L.R.C.P. Edin., 1920, L.R.C.S. Edin., 1920, L.R.F.P.S. Glasg., 1920. This practitioner had been convicted in 1925 for being drunk and incapable and was also charged with being drunk when certain patients were under his professional care. Mr. Blaney, who was represented by a solicitor, stated that he had suffered from domestic trouble which had induced him to drink to excess, but he had now been a teetotaller for four months. He produced two patients as witnesses to his good character. The Council postponed judgment for one year on the assurance of the respondent that he would abstain from alcohol during that time, and required him to forward evidence of his continued good conduct before their next November session.

*The Case of Robert John Campbell*, registered as of 7, Bradford-street, Ancoats, Manchester, M.B., Ch.B., 1922, Aberd., who appeared before the Council charged with having been convicted of drunkenness in 1923 and of having been convicted in May, 1926, of being drunk in charge of a motor-car and of driving to the public danger. Dr. Campbell's defence was that he had performed three operations on the day when the alleged offence was committed and was under the influence of chloroform, to which he was highly susceptible. He had had nothing to drink but a glass of beer and one whisky all day, but was sleepy because of the anæsthetic. This defence had not been given its full weight by the magistrate who had tried the case. The Council decided, on Dr. Campbell's undertaking to abstain altogether from alcohol in the future, not to erase his name from the Register.

*The Case of Percy Bateman*, registered as of 423, New Cross-road, S.E. 14, L.R.C.P. Edin., 1906, L.R.C.S. Edin., 1906, L.F.P.S. Glasg., 1906, who had been convicted on four occasions for drunkenness, three of them during the last six years. Mr. Bateman undertook to abstain from alcohol, saying also that he was taking a long rest from practice. The Council suspended judgment for a year under the customary guarantees.

The Council then considered business in camera until the end of their Wednesday sitting.

THURSDAY, NOV. 25TH.

*The Case of David Davey Rosewarne*, registered as of 2, Vere-street, London, W. 1, M.R.C.S. Eng., 1909, L.R.C.P. Lond., 1909, charged with abusing his position as a medical man by seducing a patient whom he was attending professionally, and also with having sexual intercourse with her on divers subsequent occasions while she was still his patient. The Council heard this case in camera, and decided to erase the name of Mr. Rosewarne from the Register.

EXECUTIVE COMMITTEE.

At a meeting of the Executive Committee the official notification was made of the reappointment of the following members of the Council: Mr. Samuel Osborn, Prof. J. B. Leathes, Dr. E. Magennis, Dr. D. J. Coffey, Sir J. W. Moore, and Dr. A. W. Mackintosh.

The following names, erased under Section 14 of the Medical Act, 1858, were restored to the Medical Register: Alexander Girvan, J. E. Hannigan, Sir Robert Porter, Henry C. E. Quin, F. G. Ralston.

*The Poisons and Pharmacy Acts.*

A communication from the Privy Council was read, in which the General Medical Council were asked to nominate a representative to serve on a committee appointed to consider the scope and administration of the Poisons and Pharmacy Acts. The President expressed his willingness to serve in the meantime, but doubted whether he would be able to continue a member after the November meeting. He was nominated by an unanimous vote.

*Dangerous Drugs Regulations.*

In the regulations made under Section 7 of the Dangerous Drugs Act, 1920, amending the Dangerous Drugs Regulations, 1921, and dated August 27th, 1926, the Secretary of State is empowered to refer the question of whether a medical practitioner is administering dangerous drugs otherwise than as required for purposes of medical treatment, to a tribunal in England of three members, one each to

be nominated by the General Medical Council, the Royal College of Physicians, and the British Medical Association. A similar tribunal is to be set up in Scotland with a nominee from the Royal College of Physicians of Edinburgh in place of that from the Royal College of Physicians of London. Sir Humphry Rolleston, with Dr. Wardrop Griffith and Dr. R. B. Wild as substitutes, was nominated for England, and Dr. A. Mackintosh, with Dr. J. A. Adams as substitute, for Scotland.

Sir Nestor Tirard was nominated by the Council to sit on the Advisory Committee newly appointed by the Ministry of Health to make regulations under the Therapeutic Substances Act.

*Medical Practice in Malta.*

Under Ordinance No. XVII. of 1901, amended 1906 and 1921, no one may practise the medical profession in Malta without a licence from the head of the Government. This licence is granted to any British subject producing a certificate from the Medical Board showing that he is a British subject of full age and is qualified by a recognised university or under the provisions of an Act of the Imperial Parliament. Physicians so licensed have certain duties which they must carry out, under penalty of fines for the first offence and imprisonment for the second. They are obliged to attend urgent cases by day or by night, to report to the superintendent of the public health anything they observe that may affect it, and to inform the police of every case of serious bodily harm, every death, and every birth at which no midwife has been present. Physicians are prohibited from practising pharmacy, and it is forbidden to employ any conventional sign in a prescription.

The amended Act was read before the Executive Committee.

OTHER BUSINESS.

On Thursday, Nov. 25th, the General Council ordered the following names to be restored to the Medical Register: David Williamson Anderson, removed 1925; Edwin Ernest Willis, removed 1922; William Joseph Ryan, removed 1926.

The Council received reports from the Education, Examination, Public Health, and Pharmacopœia Committees.

The number of copies of the British Pharmacopœia sold in the year ending Nov. 20th was 2401, an increase over last year.

The English Branch Council nominated Mr. L. P. Gamgee as a member of the Examination Committee in place of Dr. W. L. H. Duckworth, who has resigned his seat on the Council.

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LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At a meeting of this society on Nov. 19th Dr. Crawford Watson took the chair, and Dr. Wilfrid Edgecombe (Harrogate) read a paper on Vaccine Therapy in General Practice. Prophylactic immunisation, he said, depended mainly on the specific reaction to a vaccine, whereas curative immunisation appeared to depend mainly on the non-specific factor. General, focal, and local reactions might be caused by injection of a non-specific vaccine. In treating chronic infective diseases with vaccines three conditions should be fulfilled: the organism of the vaccine should be the true causal organism of the disease; the vaccine should be autogenous; and the source of infection should be located and removed if possible. He condemned speculative vaccines made from the bowel, or other source on the assumption, without adequate proof, that therein lay the source of infection. Any good from such vaccines must be due to the non-specific reaction, of the same order as the familiar protein-shock reaction. Prophylactic immunisation by vaccines in certain diseases, such as small-pox and typhoid, stood upon firm ground. Curative immunisation was on a less secure footing, and much of the vaccine therapy of the present day was purely empirical. A case of cervical rib was shown by Mr. E. R. Flint, and Dr. William MacAdam demonstrated a case of intermittent hydrarthrosis; whilst other patients were shown by Dr. J. Stewart, Dr. C. W. Vining, Dr. Cecilia Shiskin, Dr. R. Veale and Mr. A. Richardson, and radiographs by Dr. H. B. Scargill.

# Correspondence.

"Audi alteram partem."

## MEDICAL SCHOOLS AND THE LONDON UNIVERSITY BILL.

*To the Editor of* THE LANCET.

SIR,—The alterations in the constitution of the University of London which are proposed by the Departmental Committee will, in my opinion, be thoroughly advantageous.

The academic government of the University is at present in the hands of a Senate of 55, of whom 17 are nominees of the Crown or of bodies who have nothing officially to do with teaching. The future Senate will be a body of 48, of whom 25 will be directly concerned with teaching, 16 will be, as at present, the guardians of the interests of external students, and 5 will be coöpted by the Senate. It will be a much better body for academic purposes than the present Senate.

The present Senate is an extremely bad body for purposes of finance and general policy, and I do not think that the future one is likely to be any better. It is proposed to place those matters in the hands of a smaller body—the Council, on which the Senate will have a majority (eight members), and the Crown and the L.C.C. will appoint six. Such a body exists, I believe, in all English Universities except Oxford and Cambridge, and works well. There is no reason why it should not work well in London. The Council would act on the same principles as those on which the University Grants Committee now acts, and would be far less dictatorial than the L.C.C. now finds it necessary to be.

The Bishop of Gloucester takes alarm unnecessarily. The control of the University can hardly be said to be in the hands of outside members when the Senate has a majority on the Council. It is, indeed, recommended that the University should examine the governing instruments of the present schools. But it is not at all likely to object to them in any important detail since it has already examined them before the schools were admitted. Nor is it at all more likely to be unsympathetic to schools which wish to appeal for money than it is now. Why should it? The schools do not appeal for the fun of the thing, but for real needs, and the needs of education will always be the chief interest of the University. At the present moment the schools do not appeal to the L.C.C. except by the leave of the University. He adds that the University may claim to appoint principal teachers in the schools. It does that now. All Professors and Readers are appointed by the University, and that the Medical Schools, at any rate, appreciate this is shown by the fact that (excluding University and King's) they have now over 30 University Professors, whereas before the war there was not one. I can answer for it that a non-medical school with which I am connected will get as many University Professors as it can afford to pay. Why the Theological Colleges will be in any worse position than they are now I have no idea.

It seems to be suggested that the system of appointment of professors will be changed. Why should it?

Why Dr. Graham Little should suppose that the four members of Council appointed by the Crown, and the two members appointed by the L.C.C. will be appointed for political considerations, I do not know. Exactly the same number are appointed now to the Senate, and I never heard that accusation made of those appointments. Nor do I see what the Mayor of Chicago has to do with the question.

I am, Sir, yours faithfully,

Nov. 29th, 1926. W. P. HERRINGHAM.

## THE DISSOLUTION OF INSULIN.

*To the Editor of* THE LANCET.

SIR,—Prof. Funk's letter in your last issue must be of great interest to all workers with insulin in this country, as it is the first account, apart from incomplete and therefore uninformed newspaper ones, of his recent new work. Unfortunately, however, his letter would appear to have suffered in the translation, because the third paragraph describing his substance is disappointingly obscure, to me at any rate. As far as I can make out, this substance A reduces the blood-sugar of normal rabbits if the fasting level is high, but has no effect or even raises the blood-sugar if the fasting level is low.

Similar results have been obtained in rabbits by Dr. Buckley and myself, working with the ordinary whole insulin (A.B.) produced commercially by The British Drug Houses. These rabbits had been poisoned by diphtheria toxin and it was found that when the fasting blood-sugar was low, insulin failed to lower it, and sometimes even raised it, but when the fasting level was high, insulin always reduced the blood-sugar to a certain extent. On some occasions also normal rabbits with A.B. insulin, one unit, gave a rise of blood-sugar similar to that produced by a small dose of adrenalin. These results obtained with whole insulin (which will shortly be published in extenso) seem to have something common with those of Prof. Funk with his substances A and B. We are advancing as an explanation of these results an abnormal metabolic condition produced by the action of diphtheria toxin on the adrenal and thyroid. We have, however, no adequate explanation to offer for the occasional rise in blood-sugar observed after insulin in normal rabbits.

I am, Sir, yours faithfully,

R. D. LAWRENCE.

Biochemical Department, King's College Hospital, Nov. 26th, 1926.

## THE PROPHYLAXIS OF POLIOMYELITIS.

*To the Editor of* THE LANCET.

SIR,—In the interesting leading article on poliomyelitis which appeared in your issue of Nov. 27th no reference is made to prophylaxis or treatment with hexamine (urotropine). As our investigations during the last four years on the antiseptic treatment of biliary infections show that very large doses can be administered with perfect safety, it seems advisable to draw attention to the important observations of Flexner and Clark, published in 1911, on the effects of hexamine in preventing the disease in monkeys.

"When a large dose is administered by mouth, its presence can be demonstrated in the cerebro-spinal fluid soon afterwards. We have ascertained that when the virus of poliomyelitis is injected intracerebrally in monkeys, in which the hexamine is already present in the fluid, and the drug is then administered by mouth daily afterwards, in a proportion of animals so treated . . . . the incubation period of the disease is prolonged from 6 to 8 to 24 days, and the onset of paralysis is entirely prevented."

Any attempts to prevent the disease in contacts by similar means in the past have been unlikely to meet with success owing to the relatively small dose which has to be given on account of the irritation of the bladder and hæmaturia which result from the setting free of formalin in acid urine. We have found, however, that so much as 100 gr. of hexamine can be given three times a day so long as alkalis are administered at the same time in sufficient quantity to keep the urine alkaline, as formalin cannot then be set free and the bladder is not irritated. Dr. F. A. Knott has shown that the alkali does not prevent the urotropine acting on the alkaline bile, and in view of Flexner and Clark's observations it seems unlikely that it would inhibit the action in the cerebro-spinal fluid, which is also always alkaline. I would, therefore, suggest giving these large doses to all people who have been in contact with the disease until the incubation period of 14 days has passed, and, perhaps for an additional 14 days because of the possibility that the incubation period would be lengthened by the hexamine as it is in monkeys.

Although Flexner and Clark do not appear to have made any observations as to whether hexamine prevents the full development of the symptom in monkeys when the infection is once established, it has become usual to give the drug during the acute stage of the natural disease. I would suggest that at the first suspicion of the disease being present 100 gr. should be given three times a day instead of he usual 10 or 15 gr.

A mixture containing 60 gr. each of sodium bicarbonate and potassium citrate in 1 oz. of water is given after breakfast, after tea, and after a glass of milk last thing at night. The hexamine is given at the same time, but in a different mixture so that the dose can, if necessary, be varied without altering the dose of alkali. It is, perhaps, safest to begin with 50 gr. in ½ oz. of water and add a drachm of the solution to each dose every day till the full 100 gr. in 1 oz. of water are being given. In the unusual event of bladder irritation occurring the dose of hexamine should be reduced slightly and the dose of alkali further increased.

I am, Sir, yours faithfully,

ARTHUR F. HURST.

New Lodge Clinic, Windsor Forest, Nov. 24th, 1926.

## RACIAL DEGENERATION.

*To the Editor of* THE LANCET

SIR,—I think none who have the interests of the country at heart can have read Dean Inge's lecture on Racial Degeneration, which appeared in THE LANCET on Nov. 27th, without interest, and a sense of the importance and gravity of the indictment, suggested rather than urged, of recent social tendencies.

On the question of general social degeneration medical men, as such, have no special claim to be listened to, but it seems to me on the question of physique the profession has a right, and, indeed, a duty, to make its voice heard, if it has any reason to believe there is even the possibility of widespread deterioration. I believe that if there were a strong and influential medical demand for some sort of official commission of inquiry into the alleged existence of such deterioration and into its causes, if present, we might ultimately get an investigation and a report which would prove of value in checking the mischief.

Personally, I have little doubt, as a result of my experience during the war and since, that deterioration is going on to an alarming extent.

I am, Sir, yours faithfully,

Portsmouth, Nov. 29th, 1926. E. W. DEWEY.

*To the Editor of* THE LANCET.

SIR,—No doubt every reader of THE LANCET will have enjoyed Dean Inge's eloquent address—the Lloyd Roberts lecture, published on Nov. 27th. No doubt, also, they will regard his pessimistic view of the situation with apprehension, provided they consider that his deductions are based upon an accurate interpretation of existing conditions. That Dean Inge would have spoken with equal pessimism at any period of our history is ever my impression when reading his opinions. Unfortunately, like most other writers upon the welfare of our race, the Dean does not offer any remedies save those which have done duty since social problems first obtruded themselves. The only way out of the difficulty that I have met with is contained in the writings of Mr. Matthias Alexander, whose "Man's Supreme Inheritance" and "Constructive Conscious Control" I would earnestly recommend to Dean Inge as an antidote.

I am, Sir, yours faithfully,

MACLEOD YEARSLEY.

Wimpole-street, W., Nov. 29th, 1926.

## THE SUPPLY OF ARTIFICIAL LIMBS.

*To the Editor of* THE LANCET.

SIR,—The annotation on the Adjustment of Artificial Limbs in your issue of Nov. 20th is very timely, for it is, I think, an undoubted fact that many eminent surgeons perform amputations of the limbs without enough familiarity with the conditions necessary for successful limb-fitting. It is to be hoped that your article will have widespread results in improving the practice of amputation. There is, however, another aspect of the prosthetic problem to which I should like, with your permission, to draw attention.

Early in the course of the Great War it became evident to the authorities concerned in supplying disabled soldiers with artificial limbs that the old War Office system of sending the amputee to the limb-maker and trusting to the latter to supply an appropriate prosthesis was unsatisfactory. The system at present in force under the Ministry of Pensions was therefore substituted, under which limbs are prescribed by surgeons with special experience who also supervise the training in their use and see that the end-results are the best obtainable.

From all that I have heard and observed, I am led to fear that the civilian amputee enjoys none of the advantages which this system gives to his disabled brother. It appears to be a usual practice that as soon as the stump is soundly healed the hospital patient is handed over to the almoner, who gives an order to a surgical instrument-maker who may be only a middleman as far as artificial limbs are concerned. In due course a limb is supplied, and the patient is expected to take it away and use it. Too often he finds that he cannot manage it, and (in the case of the lower limb) he reverts to crutches. Would it not be possible for the hospitals of London to combine to establish a small limb-fitting centre such as those which the Ministry of Pensions has established throughout the country, in which the prescription, fitting, and use of limbs would be carried on under experienced surgical direction?

It may be urged that this work should be undertaken by Queen Mary's Convalescent Auxiliary Hospital at Roehampton. Transport difficulties could no doubt be overcome, but I understand that the work at Roehampton is restricted to a very few firms, while there are other equally excellent limb-makers whose workshops are in London and whom it would be unfair to exclude from their share of hospital custom. I am, Sir, yours faithfully,

Seymour-street, W., Nov. 26th. E. MUIRHEAD LITTLE.

*To the Editor of* THE LANCET.

SIR,—We wish to correct certain statements in your annotation headed The Adjustment of Artificial Limbs published on Nov. 20th. You state that we fitted the patient with a limb which, despite many modifications, was heavier than it would have been had the stump been a different shape. This is not correct, for the limb we fitted to this patient was our standard light metal limb for below-knee amputation; it is true that we stated that had the stump been longer he would have been more comfortable and able to walk better, but the limb would not have been lighter.

We do not agree that the long stump gives no additional advantage in leverage; we have found from our long experience in fitting limbs that long stumps are better from every point of view. It is easy to understand that with a long stump you have a larger surface upon which to bear the weight of the body, giving more comfort and additional leverage, which gives the patient more walking power and stability. We claim that with a light metal limb we can fit long stumps and still make the artificial limb perfectly symmetrical with its fellow, leaving the artificial limb no heavier than would be the case with a shorter stump. Yours faithfully,

pp. Desoutter Brothers, Limited,

Baker-street, London, W., Nov. 27th. E. R. DESOUTTER.

## AN INTERESTING SYNDROME.

*To the Editor of* THE LANCET.

SIR,—During the last three or four months a number of cases have been referred to me for electrical treatment, either on account of troublesome conditions, such as persistent backache, pains in the thighs and legs, or general debility, which present a remarkable uniformity in history, symptoms, and signs. This uniformity is so definite that I should like to give a brief account of the condition as I have met it and ask your readers whether in their practices they have had similar experiences to mine, and, if they have, whether the syndrome is well known, and, if so, what is the nature of the condition. Consideration of the clinical data at my disposal leads me to be dissatisfied, for many reasons, with the easily made, but indefinite diagnosis, of abdominal influenza.

In all the cases except two (now about 20) the patients have been males. The severity of the symptoms has always been more pronounced in those accustomed to a liberal allowance of alcohol. As regards age, the youngest case seen was a man of about 30 and the oldest one of 55.

*History.*—There is always a clear account of slowly increasing indefinite malaise, insufficient to disturb the daily work or to make the patient seek advice for one or two weeks. At the termination of this period matters come to a head by one or two nights either of sleeplessness or of greatly disturbed sleep.

The doctor's advice is then sought on account of:—

1. This sleeplessness.
2. Deep-seated pain or great discomfort localised to a small area just above and (usually) slightly to the right of the umbilicus.
3. Painful and excessive flatulence, worse on lying down (accompanied in two or three cases by sudden attacks of retching).
4. Extreme depression. (In two cases with strong alcoholic histories amounting to suicidal tendency.)
5. Distaste for all meats.
6. Discomfort in the muscles of the back and front of thighs, chiefly noticeable as limiting free range of movement, and quite different from the painful calf muscles of influenza.

These six symptoms are the ones referred to above as remarkably constant.

The *physical signs* are nearly equally constant. They are:—

1. Pallor of the skin, which becomes a dirty yellow colour (the patients look ill).
2. Temperature, respiration, and pulse remain normal.
3. The tongue, though not clean, is not strongly furred, but always presents the indentation of the teeth.
4. The abdomen moves well, and can be handled superficially without discomfort, except in the more acute cases; deeper pressure above the umbilicus, however, is always resented over a small area, and is accompanied by much gurgling.
5. Tests made of the sensitivity of the skin of the abdomen by means of a small electrode utilising the induced current, show a strictly localised area of definite but mild hyperalgesia approximately over the deep area of discomfort.
6. Urine, stools, barium meal and test-meal examinations in those cases that had them, yielded no information of value.
7. In the forward lying position the usual range of hyperextension of the thighs on the trunk was much limited and accompanied by a sense of deep abdominal discomfort.

In a number of cases duodenal ulcer and cholecystitis had been suspected, which indicates roughly the clinical status. These cases run a more or less "worrying" course for a week or ten days, then after an interval of a week or more, frequently relapse again and again, but each time less severely. Recovery appears to be slow and incomplete, particularly as regards the flatulence. Electrical measures during the acute stage are, from my experience, definitely contra-indicated; later, combined treatments of diathermy and ultra-violet light help materially to restore energy and abdominal comfort far better than if either of these currents are used separately.

These signs and symptoms do not correspond to any condition within my knowledge, but may be familiar to many of your readers, who could, perhaps, help me with their experience.

I am, Sir, yours faithfully,

London, W., Nov. 29th, 1926. C. B. HEALD.

## THE DOG AS TEST OBJECT.

*To the Editor of* THE LANCET.

SIR,—In the experimental work which led to the isolation of the internal secretion of the pancreas in a form suitable for repeated subcutaneous administration to patients suffering from diabetes mellitus diabetic dogs were used as test objects for extracts made from the degenerated pancreas of the dog. The dog was greatly superior to other animals as a test object because the frequent samples of blood necessary in order to follow the blood-sugar level could be easily obtained by vena puncture by the same painless technique as is used to secure blood samples from patients. Secondly, the pancreas of the dog can be completely removed and a severe diabetes produced. The pancreas of the cat can also be removed, but it is extremely difficult to obtain blood samples from this animal. Blood samples can be easily obtained from the rabbit, but the pancreas is so diffuse that an investigator is never certain if removal has been complete. Thirdly, the signs and symptoms of diabetes in the dog have been more completely recorded than for any other species so that the beneficial effects of an antidiabetic substance could be more easily detected and more accurately estimated in this animal than in any other. It is quite probable that the antidiabetic effect of the first extracts prepared in Toronto would have been missed if a less satisfactory test animal had been used.

Since the dog was the largest laboratory animal in which it had been shown that ligation of the pancreatic ducts was followed by disappearance of the acinous tissue more pancreas was available in this species, in which to seek the elusive antidiabetic substance than in any other. Furthermore, since the most advantageous test animal was the dog it seemed probable that unnecessary difficulties would be encountered if extracts made from the tissue of a foreign species were used.

I am, Sir, yours faithfully,

C. H. BEST.

Department of Physiology, University College, Gower-street, W.C., Nov. 30th, 1926.

*** Dr. Best's letter brings up to date the memorandum issued by the Medical Research Council in 1919 and is dealt with in a leading article.—ED. L.

## MEDICINE OR SURGERY FOR THE OCULIST?

*To the Editor of* THE LANCET.

SIR,—Mr. Ernest Clarke, in his presidential address to the Section of Ophthalmology of the Royal Society of Medicine (THE LANCET, Nov. 20th, p. 1052), has raised a topic of some general interest by his remarks on the advance in the education of the intending oculist. The facts are admirably crystallised in the paragraph:—

> "In the early days the only eye work was surgical, and when the various hospitals established eye departments one of the surgeons on the staff was selected as head of that department. Naturally, the younger men who aimed at specialising in eye work concentrated on surgery, and took the Fellowship of the Royal College of Surgeons, the study for which occupied all their time to the exclusion of any deep knowledge of medicine; consequently the proportion of oculists without a special medical degree at this time was 4 *to* 1. As the knowledge of ophthalmology increased it became apparent that medicine was as important, or even more important, than surgery, so that now almost all the younger oculists possess a medical degree and the proportion is reversed."

While everyone will agree with this, the F.R.C.S. remains the indispensable key to hospital appointments, and the waste-paper basket is the receptacle for any application from a Member of the Royal College of Physicians. No doubt the possession of both these diplomas is the ideal, but if one alone is to constitute eligibility, perhaps the "Membership" might be considered more appropriate than the "Fellowship." The much closer relationship of the subject matter of ophthalmology with general medicine than with general surgery is obvious, and it seems unfortunate that Mr. Clarke should have followed up the statement I have quoted above by recalling a paper of seven years past in which it was hinted that "the time might come when some *conscious of not being good at surgery* (my italics) would concentrate on the medical side and call themselves medical ophthalmologists, with the prefix of 'Dr.' which (in London) is not considered to be our correct designation." In the spirit of this remark Mr. Clarke appears to ally himself with the regulations—obsolescent on his own showing—of the hospitals, and, indeed, to impute (which he can hardly wish to do) a motive other than a desire for efficiency to those oculists who have neglected the "Fellowship" for other qualifications.

No one will deny the status of the work done by ophthalmic surgeons in the past, but this has nothing to do with the point; to argue on this would be to confuse *post* and *propter* once more. Nor is the tremendous educational value of the primary examination for the Fellowship in question.

Shorn of irrelevancies, the question is that of "Medicine or Surgery for the Oculist." I do not propose any lowering of standards, but rather a widening of them. The advance is now chiefly in the direction of medicine. Will this be recognised by the equalisation of surgical and medical diplomas? It is to be noted, in passing, that a gynæcologist can be appointed on a medical diploma. I hope that some oculists of experience will think the subject worthy of an expression of their views. I ought to state that I have neither of the diplomas mentioned.

I am, Sir, yours faithfully,

Nov. 22nd, 1926. INCIPIENS.

## AN APPEAL.

*To the Editor of* THE LANCET.

SIR,—A medical man, aged 70, who has no knowledge of this appeal, is sorely pressed. Twenty years ago he was advised on medical grounds to leave his general practice. His health recovered, and for many years he has been able to act as locum tenens, doing work which has kept him alive, but which has prevented him putting by. His wife, who is in indifferent health, does what she can by dressmaking. Of four sons who would now all be helping, three died at the age of 21; one, my friend, in the *Queen Mary* at Jutland; one of cerebro-spinal meningitis at St. Omer; and the other elsewhere abroad. The remaining boy is in the air branch of the Navy, and he sends home the little he can afford.

Recently a prolonged illness, lasting over four months and necessitating several operations, has prevented the doctor from earning a penny, and his financial state is critical. A friend has opened a subscription list with £50; and I, who know the facts, shall be very glad to receive, acknowledge, and forward subscriptions from sympathetic professional colleagues. Perhaps someone may know of an opening for the doctor, preferably in London, on the clerical side of a hospital or its appeal department, or of a medical or other society. He aspires only to a small living wage, and for this he would do first-rate work.—I am, Sir, yours faithfully,

HILDRED CARLILL, M.D. Camb.,
Physician to Westminster Hospital, &c.

146, Harley-street, W., Nov. 29th, 1926.

## BULB DERMATITIS.

*To the Editor of* THE LANCET.

SIR,—In your issue of Nov. 13th you published a paper by me on the occurrence and features of dermatitis from handling flower bulbs. This article attracted the attention of the lay press, and extracts subsequently appeared in several of the daily papers. As a result, numerous requests from all parts of the country have reached me, either directly or through you, asking for details of prevention and cure.

The prevention of the distinctive peri- and hyponychial dermatitis from handling flower bulbs is

comparatively simple. Those exposing themselves to contact with bulbs should trim their nails as closely as comfort will permit. The tips of the fingers should be firmly pressed into a block of good unperfumed soap before starting work. Should irritation under and around the nail supervene in spite of these precautions, a cure may be effected by the use of an ointment consisting of equal quantities of lanoline and castor oil, applied to the affected parts. Gloves or finger-stalls should be worn at work until the cure is completed.—I am, Sir, yours faithfully,

SIBYL G. OVERTON.

Factory Department, Home Office, Whitehall,
Nov. 27th, 1926.

## PROTECTIVE INOCULATION AGAINST TUBERCULOSIS.

*To the Editor of* THE LANCET.

SIR,—In his otherwise admirable report of the Tuberculosis Week-end Conference in your issue of Nov. 27th, your reporter has, unfortunately, misunderstood my remarks. What I said was that more than half of those exposed to known sources of tuberculous infection did not appear to suffer from it; so that if protective inoculation were advocated, it would not be easy to decide which persons were in need of it. Infection is, I believe, very frequent in childhood; but the breakdown in health comes usually much later in life, as the result of (mostly) non-tuberculous causes. My opinion is based on the study of over 2000 of my cases. I am, Sir, yours faithfully,

Farnham, Surrey, Nov. 29th, 1926. F. R. WALTERS.

## EPIDEMIC ENCEPHALITIS IN DOGS.

*To the Editor of* THE LANCET.

SIR,—I am much interested in the suggestion made by Dr. C. O. Stallybrass in THE LANCET of Nov. 13th that encephalitis should be regarded rather as a specific disease predisposed to by distemper than as a part of distemper itself. He calls for "epidemiological or bacteriological evidence," if any be available, in favour of the latter view.

Epidemiologically it is impossible to separate distemper from encephalitis of the Sevenoaks type. The better known forms of distemper, such as the bronchisepticus or pulmonary form, as well as the more benign and transitory catarrhal form, are often followed by clonic spasms to which the name "chorea" is usually given by veterinary surgeons. Between this "chorea" and frank encephalitis every grade of nervous involvement and every sort of nervous symptom exist. It is also the case (and this perhaps is more important) that during an epidemic of distemper of the catarrhal type certain cases will be found in which the catarrhal and nervous symptoms appear at the same time. These cases, which are not uncommon, make it very difficult to accept the view that distemper acts merely by predisposing to encephalitis.

It was shown by certain workers for the Distemper Commission [1] that animals guarded by the most stringent precautions from all infections, except deliberately induced distemper, nevertheless developed encephalitis. In these cases the virus did not "breed true," although I am personally inclined to agree with Dr. Stallybrass that it commonly does so—at least within the same epidemic period. But it would not seem necessary that epidemics of encephalitis and influenza (or distemper) should ordinarily coincide, or even "regularly alternate," before we can accept them as no more than occasional phases of the type diseases. Indeed, the fact that they do not fulfil these conditions surely tells with even more force against the contention that the type disease merely predisposes to encephalitis.

I am, Sir, yours faithfully,

Sevenoaks, Nov. 16th, 1926. LESLIE PUGH.

[1] Dunkin, G. W., and Laidlaw, P. P.: Jour. Comp. Path. and Therap., 1926, vol. xxxix., Part 3.

# Medical News.

UNIVERSITY OF OXFORD.—On Nov. 27th the degree of Doctor of Medicine was conferred on E. G. T. Liddell (Fellow of Trinity College) and the degree of Bachelor of Medicine on J. de la M. Savage (Wadham College).

*Radcliffe Travelling Fellowship.*—An examination for a Fellowship of the annual value of £300, and tenable for two years, will begin on Feb. 15th. Candidates must have passed all their examinations for the degree of Bachelor of Arts, and must have passed the last examination for the degree of Bachelor of Medicine not more than four years previously. The period of tenure of the Fellowship has to be devoted to the study of medical science and no Fellow may spend more than nine months in the whole within the United Kingdom. The principal subjects of examination are physiology, pathology, and preventive medicine, and there is a practical examination in pathology. The Fellowship is open to women.

UNIVERSITY OF LONDON.—At the recent examination for the Diploma in Psychological Medicine the following candidates were successful:—

*With Special Knowledge of Psychiatry.*—Rupert George Anderson, Donald Hugh Cameron, Henry Harris.
*With Special Knowledge of Mental Deficiency.*—Robert Melvin Macfarlane.

The Paul Philip Reitlinger Prize, offered this year for the best essay embodying the result of some research work on a medical subject carried out by the candidate, has been awarded to William Stewart Duke-Elder, M.A. St. Andrews, who is now working at University College, London, for his essay on the Ocular Circulation: its Normal Pressure Relationships and Their Physiological Significance. The prize, of the value of £30, was founded with funds given to the University by Mr. Albert Reitlinger in memory of his son, a student of Middlesex Hospital Medical School, who died on Dec. 3rd, 1911. Next year the prize will be awarded for the best essay on the Nature of Belief and its Place in Human Experience.

UNIVERSITY OF MANCHESTER.—Dr. William Dyson, Dr. D. S. Sutherland, and Dr. S. R. Wilson have been appointed members of the Board of the Faculty of Medicine.

UNIVERSITY OF GLASGOW.—On Nov. 20th the degree of M.D. was conferred on Evelyn M'Pherson for a thesis on Gastric Analyses in Cases of Diabetes and Glycosuria.

MEDICAL STUDENTS' VISIT TO A SPA.—In connexion with a scheme organised by the International Society of Medical Hydrology nearly 60 medical students and graduates of the University of Bristol visited Bath on Nov. 19th. A lecture-demonstration was given at the Royal Mineral Water Hospital by Dr. Vincent Coates, and visits were made to the various departments for physical treatment.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—On Thursday, Dec. 9th, at 5 P.M., Mr. L. Bathe Rawling will give a special lecture on Injuries to the Head, at the rooms of the Medical Society of London, 11, Chandos-street, W. 1. This will be free to members of the medical profession. On Dec. 6th the Infants Hospital will start a fortnight's course in Diseases of Infants. Attendance will be from 2 P.M. daily and there will be lectures, demonstrations, and two specially arranged visits on the Saturdays and one on a Sunday. The fee will be three guineas. Practical courses in Obstetrics lasting a fortnight or a month can be arranged at the Queen Charlotte's Hospital. Every week the City of London Maternity Hospital holds a course in Obstetrics and Child Welfare, personal application for which must be made to the Fellowship offices. The Fellowship can also arrange clinical assistantships at the Samaritan Hospital. The following courses will be held in January next: A fortnight's intensive course in medicine, surgery, and the specialties at the Prince of Wales's General Hospital from Jan. 10th to 22nd; a fortnight's all-day course in cardiology at the National Hospital for Diseases of the Heart from Jan. 17th to 29th, for which the entries are limited to 20; a fortnight's course in Diseases of Children at the Royal Free Hospital and the Children's Clinic from Jan. 10th to 22nd; and a month's course (Tuesday and Saturday mornings at 11 A.M.) in Psychological Medicine at the Bethlem Royal Hospital from Jan. 11th to Feb. 5th. A further series of lectures on Medical and Surgical Emergencies will be held under the auspices of the Fellowship and there will also be clinical demonstrations in ophthalmology at the Royal Eye Hospital. Copies of all syllabuses of the Special Courses, the Programme of the General Course, and of the *Post-Graduate Medical Journal* may be had from the Secretary of the Fellowship at 1, Wimpole-street, London, W. 1.

Messrs. William Heinemann (Medical Books), Ltd., will shortly publish the fourth edition of Jacobi's "Atlas of Dermochromes," with a new and original text by Dr. Henry MacCormac. The price of the two volumes will be five guineas.

HARVEIAN SOCIETY OF LONDON.—An ordinary meeting of this society will be held at Paddington Town Hall on Thursday, Dec. 9th, at 8.30 P.M., when a discussion on the Ætiology of High Blood Pressure and the Respiratory Phenomena Associated with High Blood Pressure and Chronic Nephritis will be opened by Sir John Broadbent.

INFANT WELFARE AT LLANDUDNO.—On Nov. 26th Mr. Neville Chamberlain, the Minister of Health, opened the War Memorial Infant Welfare and Maternity Centre, the site for which has been given by Lord Mostyn. This is the first building in North Wales to be devoted to the service.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting will be held at the Miller General Hospital, Greenwich, on Friday, Dec. 10th, at 8.45 P.M., when Dr. Robert Hutchison will deliver the Purvis Oration. His subject will be Prognosis. After the oration there will be a conversazione.

OKEHAMPTON COTTAGE HOSPITAL.—The War Memorial Cottage Hospital, Okehampton, cannot yet be opened owing to the difficulty of obtaining servants. Several advertisements have failed to produce a single answer.

LIGHT DEPARTMENT AT PRESTON INFIRMARY.—On Nov. 25th Dr. Leonard Hill opened the new light department at the Preston and County of Lancaster Queen Victoria Royal Infirmary. In the course of his speech he said that for three years he had pleaded for the introduction of light treatment into schools. Everyone should have an opportunity to take light baths once or twice a week.

IRISH MEDICAL GRADUATES' ASSOCIATION.—The autumn dinner of the Irish Medical Schools and Graduates' Association was held at the Savoy Hotel, London, on Nov. 23rd. Sir William Wheeler, the President, was in the chair, and the guest of honour was Sir Thomas Moloney, lately Lord Chief Justice of Ireland. The toast of "The Guests" was proposed by Sir John Moore and responded to by Sir Thomas Moloney and Lord Shaw of Dunfermline. "The President and Association" was proposed by Dr. R. Travers Smith and Sir William Wheeler responded. Miss Ethel Ashmore, Mr. W. Gardner, "Miss Agnes Treacy" and others contributed to a delightful musical programme.

ROYAL INSTITUTION.—On Thursday, Dec. 9th, at 5.15 P.M., Sir Squire Sprigge, the Editor of THE LANCET, will deliver a lecture at the Royal Institution on Early Medical Literature. On Dec. 16th, at the same hour, he will lecture on Medical Literature in Relation to Journalism. —The Christmas course of juvenile lectures will be delivered by Prof. A. V. Hill. His subject will be Nerves and Muscles: How We Feel and Move, and the course will begin on Tuesday, Dec. 28th, at 3 P.M. The titles of the lectures are: Nerves and the Messages They Carry; Muscles and How They Move (Dec. 30th); the Heart and Some Other Muscles (Jan. 1st); the Lungs and Blood (Jan. 4th); Nerves and Muscles Working Together (Jan. 6th); and Speed, Strength, and Endurance (Jan. 8th). The lectures will be fully illustrated by experiments.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—On Nov. 25th the following office-bearers and members of Council were elected: President: Dr. J. F. Christie. Vice-President: Dr. Thomas Fraser. Treasurer: Dr. George Rose. Secretary: Dr. H. Edgar Smith. Editor of Transactions: Mr. G. Herbert Colt. Members of Council: Dr. J. Ross Mackenzie, Mr. W. Anderson, Dr. Peter Howie, Dr. James Crombie, Mr. Andrew Fowler, Mr. Alexander Mitchell, Dr. Henry Peterkin, and Dr. George Williamson. Assistant Secretary: Dr. Robert Richards. Recording Secretary: Mr. A. Fowler.

THE LATE DR. LINTON PALMER.—After a short illness Dr. Charles John Linton Palmer died at Gosport on Nov. 19th. Educated at University College, Liverpool, Dr. Palmer qualified as M.R.C.S. in 1898 and held appointments as resident medical officer at the City Infectious Diseases Hospital, Park Hill, and at the Liverpool Royal Infirmary. He went into practice at Gosport just before the war, and was shortly afterwards appointed civilian medical officer in charge of troops in the district. Later he held a lieutenant's commission in the Royal Army Medical Corps and served on the hospital ships plying in the English Channel. Since the war he had remained in practice at Gosport and was honorary medical officer to the Royal Portsmouth and Gosport Hospital. Dr. Palmer was 55 years of age and leaves a widow and two children.

Sir Thomas Legge has tendered his resignation of the post of Senior Medical Inspector of Factories at the Home Office, finding himself unable to recede from the position which he took up at Geneva in 1921 when he voted for the Draft Convention prohibiting the use of white lead for internal painting of buildings.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—A meeting will be held at 17, Bloomsbury-square, London, W.C., on Dec. 14th at 8 P.M., when a paper will be read on the Vitamins in Their Relation to Pharmacy by Mr. F. H. Carr. After the paper a discussion will be invited. Medical friends of members and student-associates will be welcomed.

"OUR WEEK."—This is the name given to the special effort that is being made this week in celebration of the sixtieth birthday of the Elizabeth Garrett Anderson Hospital. It is hoped, by means of numerous entertainments and functions, to raise a large sum towards the fund for building and rebuilding wards and special departments.

GIFT TO A MEDICAL MAN.—A number of his friends and patients have presented an illuminated album to Dr. Price Morris, of Cadwgan, Old Colwyn, as a record of their appreciation of his medical service to the neighbourhood during almost half a century. Presentations have also been made to his wife and daughter.

GLAMORGANSHIRE HOME FOR THE MENTALLY DEFICIENT.—The Glamorganshire County Council has purchased Hensol Castle from Sir Francis Price Rose as a home for mentally deficient persons. The castle, which was one of the seats of the Earls Talbot before they inherited the Earldom of Shrewsbury, has been sold because the late owner foresees that his successors will not be in a position to maintain it.

THE LATE DR. W. C. W. STAIN.—Dr. William Corbet Stain, whose death at the age of 58 is reported from Audlem, was notable both for his work as a practitioner and his interest in local affairs. Born at Foxton in Leicestershire, he studied medicine at the University of Edinburgh, graduated in 1890, and went to Audlem 32 years ago. Soon acquiring a considerable practice, he became medical officer of health and a justice of the peace. A keen politician, he was also captain of the fire brigade and of the cricket and football clubs, a good shot, and for many years a follower of the South Cheshire and North Staffordshire Hounds. He married in 1915 a daughter of Mr. John Nunnerley, of Hankelow Manor, and she survives him.

CREMATIONS IN MANCHESTER.—At the annual meeting of the Manchester Crematorium, Ltd., on Nov. 25th the following statement by the late Lord Salvesen, of the Edinburgh Court of Session, was quoted to meet a suggestion that cremation might hinder the course of justice: "In my opinion these requirements [the Home Office Regulations] are so stringent as for all practical purposes to exclude the possibility of a body being cremated which has been the victim of foul play." Since the crematorium was opened in 1892 there have been 4622 cremations, and the number has steadily increased during the last five years.

METROPOLITAN ASYLUMS BOARD.—In connexion with the Diploma in Public Health, a three months' course of lectures and demonstrations on Clinical Practice and in Hospital Administration will be given at the North-Eastern Hospital, St. Ann's-road, Tottenham, N., by Dr. F. H. Thomson on Mondays and Wednesdays at 4.45 P.M., and alternate Saturdays at 11 A.M., beginning on Monday, Jan. 3rd. The fee of four guineas should be paid to the clerk to the Board at Victoria Embankment, E.C. 4, before attending the course.

YORKSHIRE ASSOCIATION OF GLASGOW GRADUATES. The annual dinner will be held in the Great Northern Hotel, Leeds, at 6.45 P.M. on Friday, Dec. 17th. The guest of the evening will be Mr. Farquhar Macrae. All old Glasgow graduates resident in Yorkshire are invited to the dinner, particulars of which may be had on application to the honorary secretary, W. MacAdam, M.D., 40, Park-square, Leeds.

THE LATE DR. SILAS HONEYWILL.—Dr. Honeywill, who has died at Bildeston in Suffolk at the age of 72, received his medical education at University College Hospital and qualified as M.R.C.S. Eng. and L.R.C.P. Edin. in 1876. He was for a time ophthalmic assistant at the hospital and settled in Bildeston about 46 years ago as assistant to Dr. J. L. Growse, later taking over the practice himself. At the time of his retirement in 1916 he was medical officer and public vaccinator for one of the districts of the Cosford Union and was well known throughout the district as president of the cricket club, a post which he had held for more than 40 years. Dr. Honeywill leaves a widow and a son.

# Parliamentary Intelligence.

## NOTES ON CURRENT TOPICS.

### SMOKE ABATEMENT BILL.

THE consideration of the Public Health (Smoke Abatement) Bill, which has already passed through the House of Lords, has been completed by Standing Committee B of the House of Commons.

On Nov. 18th, on Clause 1, which provides that a chimney (not being the chimney of a private dwelling-house) sending forth smoke in such quantity as to be a nuisance shall be liable to be dealt with summarily, Mr. H. WILLIAMS moved an amendment restricting the application of the provision to black smoke, and requiring the Ministry of Health to prescribe the standard of the smoke. He said that after all it was impossible to burn fuel without the production of some limited amount of smoke of some kind or another, and if they were going to extend the whole present conception of smoke until it included presumably any kind of vapour which could be seen in any way at all, he thought they would land themselves in great difficulties.

Mr. N. CHAMBERLAIN (Minister of Health) in resisting the amendment, said he justified the provisions of the Bill as they stood by the Report of the Newton Committee. That Committee said that they examined 150 witnesses, who were unanimous that the limitation to black smoke should be removed. It was ridiculous, the right hon. gentleman continued, if they were going to try to limit the injury to the public health caused by the emission of noxious vapour that they should confine the provision to black smoke. It was really impracticable for any central body to prescribe a standard of this kind. The only reasonable way of meeting the difficulties was to give some discretion to the local authority or to the justices in the court.

Lieut.-Colonel FREMANTLE said that the provisions that had been put in the Bill for the protection of industry were considerable. What those who were keen from the point of view of public health in getting some measure of smoke prevention feared was that nothing would be done, just as had been in the case in the past.

The amendment was negatived.

An amendment moved by Lieut.-Colonel ASTBURY to exclude "ash grit and gritty particles" from the expression "smoke" was negatived by 23 votes to 5.

Mr. GREENWOOD moved an amendment debarring the Minister of Health from exempting by Provisional Order "any other industrial process" than the processes mentioned in Clause 1.

The amendment was negatived by 16 votes to 7.

On Nov. 23rd the Committee considered Clause 5, which extends the power to make by-laws to the provision in new buildings, other than private dwelling houses, of heating arrangements to prevent or reduce the emission of smoke.

Captain WATERHOUSE moved an amendment to include private dwelling-houses within the scope of the clause. He said that they were building so many houses nowadays that it seemed a great pity that more stringent provisions were not made to enforce the use of the very best type of grate. In Lord Newton's Report it was stated that 50 per cent. of the smoke nuisance came from private dwelling-houses. At the most under this Bill, as now drafted, they were only seeking to diminish 50 per cent. of the smoke, and he wanted to urge the Minister to diminish part of the other 50 per cent. which came from private dwelling-houses.

Lieut.-Colonel FREMANTLE supported the amendment. He said that to people who had dealt with questions of public health the urgency of this question was obvious, and they said, "For heaven's sake prevent the nuisance being set up in new buildings under new conditions and in new surroundings where possible." Local authorities, especially those who produced electricity and gas, might naturally try to promote experiments in putting up houses without any open fireplaces. He emphatically protested against any such possibility in the name of public health. A great authority at the present time on applied physiology, Dr. Leonard Hill, had recently, and again and again, spoken in regard to the present position of science as regarded heat, ventilation, and heating, and he had shown how in the enclosed systems of heating in which they promoted heat by radiation and convection, they left out entirely the better system of heating from the open fire, and left out the question of ventilation to a large extent. Be that as it might, he did not mind a few experiments being tried if only to show how unsatisfactory they were, and that the people of the country would not have such houses. He thought that it was quite possible by research to evolve a fireplace which could be put into an ordinary working-class house, and which would help to consume the smoke. When that had been proved, it would be an excellent thing to have an amending Bill which would enable the far-sighted local authorities to institute by-laws and to insist that such improved appliances should be applied to all new houses.

Mr. CHAMBERLAIN reminded the Committee that there were 8,000,000 houses existing in the country at present, and not one of these would be touched. All that they would deal with under the amendment were the new houses of the future which were being built at the rate of 200,000 a year. As a matter of fact, they would not even deal with the whole of these houses, because a substantial part of them were being built by local authorities, and there was nothing to prevent them from so constructing their houses that they were fitted with such arrangements as would prevent the emission of smoke.

The amendment was negatived by 18 votes to 7.

On Nov. 24th the Committee amended Clause 9 (which excluded ships from the operation of the Bill), so as to make the Bill apply to ships other than those "habitually used" as sea-going vessels.

A new clause (powers of local authorities to conduct research) was added to the Bill.

The Committee stage was concluded, and the Bill was ordered to be reported to the House.

## HOUSE OF LORDS.

THURSDAY, NOV. 25TH.

### *Lead Paint Poisoning Bill.*

ON the motion for the third reading of the Lead Paint (Protection against Poisoning) Bill,

Viscount BERTIE OF THAME moved an amendment exempting from the prohibition provided by the Bill such women as are actually employed in painting at the time of the passing of the Act.

Lord DESBOROUGH, on behalf of the Home Office, accepted the amendment, which was agreed to.

The Bill was read a third time and passed.

### *Poor-law Bill.*

Viscount GAGE, in moving the second reading of the Poor-law Bill, said it was not a measure for the Reform of the Poor-law, but a Bill to consolidate the various enactments relating to the subject of the Poor-law. At present they were to be found in about 100 Acts of Parliament ranging from the Poor Relief Act of Queen Elizabeth's day to modern times. It was proposed to repeal some 60 Acts of Parliament and to repeal in part about 40 others. The general effect of the Bill would be to replace about 220 pages of the Statutes Revised, many of which represented pre-Victorian legislation, and were archaic in form, by an Act of 140 pages couched in modern language and arranged in modern form. In the opinion of the Government it would be impossible satisfactorily to discuss Poor-law Reform by the light of the existing enactments, and that an attempt should be made to reduce the existing Poor-laws to a single code, which would be readily available to all persons interested, and from which the scope and effect of the changes proposed could easily be seen. If the Bill received a second reading, he would propose that it be sent to the Joint Committee on Consolidation Bills.

The Bill was read a second time, and referred to the Join Committee on Consolidation Bills.

## HOUSE OF COMMONS.

WEDNESDAY, NOV. 24TH.

### *Nurses' Hours at West Ham Infirmary.*

Miss LAWRENCE asked the Minister of Health the hours per week and the length of shift worked by the nurses and sick attendants at the West Ham central infirmary at the present time, and the hours and shifts worked prior to the establishment of the present appointed board of guardians.—Sir KINGSLEY WOOD (Parliamentary Secretary to the Ministry of Health) replied: Prior to the appointment of the present Board the hours worked by these officers were 48 a week; they are now 56. Attendants in the observation wards continue to work 48 hours a week. The daily shifts for nurses were 10 hours, and have not been changed; for sick attendants the shifts were eight hours without a break, and are now 10 hours, but under the present system the longest time worked without a break is 4½ hours.

### *Dog-stealing and Medical Research.*

Captain ARTHUR EVANS asked the Home Secretary if his attention had been drawn to the case of a man convicted of stealing dogs for the purpose of selling them to the University College School of Physiology; what action the College authorities took in order to see that stolen animals were not bought; what were the nature of the experiments carried on by this College; and what steps were taken to see that unnecessary cruelty was not practised.

Captain PETER MACDONALD asked the Home Secretary whether his attention had been called to a case of dog-

stealing in London and to the remarks of the magistrate with respect to receiving; whether the police had investigated the procedure under which these animals were collected and disposed of to medical schools; and whether he would consider legislation compelling institutions thus purchasing dogs to keep an inventory of acquisitions, with the prices and names of all vendors, such inventory to be open to police inspection.—Sir W. JOYNSON-HICKS replied: I have seen a press report of the case in question. The College authorities have since stated publicly that their procedure is to buy the animals when required from a general dealer in animals and animals' food, and to require from him a written guarantee that all the animals so purchased were legitimately obtained. The experiments carried on at the College are for the purpose of medical and scientific research and are subject to the conditions and restrictions laid down by the Act 39 and 40 Vic., cap. 77. The laboratory is inspected at frequent intervals by the inspectors appointed under that Act.

Sir ROBERT GOWER asked the Home Secretary whether he would consider the desirability of introducing legislation making it obligatory for persons dealing in dogs, cats, and similar live animals to take out a licence for the purpose and to keep a record of how such animals had been obtained and to whom sold, and providing that these records should be open to regular inspection.—Sir W. JOYNSON-HICKS replied: I do not think that legislation of the kind suggested would be practicable, and I see no reason to doubt that provisions of the ordinary law of larceny are sufficient to deal with thefts of animals.

Sir ROBERT GOWER asked the Home Secretary whether his attention had been called to the comments made on Nov. 20th by Mr. Fry, the stipendiary magistrate at Bow-street police-court, when sentencing Henry William Hewitt, who was, according to the police evidence, employed by the University College Hospital School of Physiology to supply animals for vivisectional experiments and against whom there was a previous conviction for dog-stealing, for stealing and ill-treating certain dogs intended by him for sale to such school; and whether he would consider the desirability of causing an inquiry to be made into the methods by which dogs and other animals were obtained for the purpose of vivisectional experiments in physiological schools.—Sir W. JOYNSON-HICKS replied: Yes, Sir; and I have received a communication from the responsible authorities of the school containing information as to the procedure adopted by them in the purchase of animals, which I understand was not before the magistrate when he dealt with the case. I see in the morning's newspapers that the College has appointed a committee to inquire into the matter. Apart from this case no complaints have reached me, and at present I see no necessity for a general inquiry.

*Condition of Casual Wards in Winchester.*

Mr. WALTER BAKER asked the Minister of Health whether his attention had been called to the fact that the Winchester Board of Guardians publicly declared their refusal to comply with the requirements of his Inspector to make their casual wards fit for human habitation; whether they had since satisfied the Inspector; and, if not, what steps would be taken.—Sir KINGSLEY WOOD replied: Yes, Sir. My right hon. friend had made further representations to the guardians, and he understands that they have now reconsidered their position and are preparing proposals for the improvement of their wards. The matter will continue to receive his close attention.

*Cow Milkers and Disease.*

Mr. GROVES asked the Minister of Health whether he would consider the desirability of amending Clause 16 of the Milk and Dairies Order so as to prevent any person engaging in the milking of cows who was suffering from cow-pox, tuberculosis, venereal disease, or skin diseases generally.—Mr. NEVILLE CHAMBERLAIN replied: The prevention of Tuberculosis Regulations, 1925, contain provisions for preventing any person who is suffering from tuberculosis of the respiratory tract from milking cows. I am advised that there is no evidence that the other diseases mentioned are likely to be transmitted to consumers through the medium of milk, and consequently I do not at present propose to modify the Order in the sense suggested.

THURSDAY, NOV. 25TH.

*Naval Ratings and Tuberculosis.*

Mr. HORE-BELISHA asked the First Lord of the Admiralty the number of men invalided from the Navy with pulmonary tuberculosis during the year 1925; and the number of these whose disease was claimed not to be attributable to the service.—Mr. BRIDGEMAN replied: The number of men invalided from the Royal Navy and Royal Marines with pulmonary tuberculosis during the year 1925 was 189. The number of these whose disease was considered not to be attributable to the Service was 187. It is believed that a certain number of these 187 men claimed disability pensions from the Ministry of Pensions on the ground that the invaliding disability was attributable to War Service. The results of these claims are not known at the Admiralty.

Sir BERTRAM FALLE asked the First Lord of the Admiralty the number of naval ratings borne during the financial year 1913–14; and the number invalided with tuberculosis, also for the financial years 1921–22 and 1924–25.—Mr. DAVIDSON replied: The number of naval ratings and Royal Marines invalided with tuberculosis during the three years in question were 192, 235, and 179 respectively. The average numbers borne were 130,490, 110,823, and 90,527 respectively.

*The Factory Bill.*

Mr. ROBINSON asked the Home Secretary when it was proposed to take the Second Reading of the Factory Bill.—Sir W. JOYNSON-HICKS replied: The Bill has been withdrawn for this session. As I explained in the Memorandum on the Bill (Cmd. 2716), and also in the course of the debate on March 26th last on the second reading of the Factories Bill introduced by a private member, the Government Bill was introduced in order to give the different industries affected the opportunity during the autumn and winter of examining the proposals, of consulting among themselves with a view to arriving at agreements on disputed points, and of submitting any representations they desire to the Government. It was not proposed to proceed further with the Bill during the present session.

*Approved Societies and Dentists' Fees.*

Colonel APPLIN asked the Minister of Health whether he was aware that certain approved societies had refused to pay dentists the new regulation fees; and what steps he proposed to take to bring these approved societies into line with the majority.—Mr. NEVILLE CHAMBERLAIN replied: The new scale of fees for dental treatment has not been laid down by regulations, but has been arrived at by agreement between representatives of approved societies and the dental profession. I am aware that a few societies have not yet adopted the scale. I am watching the position, and in the event of its becoming clear that the adoption of the scale by the society is essential to the provision of a satisfactory service for its members, I will take such steps as are necessary to deal with the matter.

*Government and Poor-law Reform.*

Mr. BENJAMIN SMITH asked the Minister of Health whether it was proposed to lay upon the Table particulars of the Government proposals for the amendment of the Poor-law.—Mr. NEVILLE CHAMBERLAIN replied: No, Sir. A provisional scheme has been published and criticism upon it has been invited from the various bodies interested; the question whether further proposals framed in the light of this criticism shall be made public in the same way is under consideration.

*Infantile Paralysis at Uppingham School.*

Captain FAIRFAX asked the Minister of Health the extent of the outbreak of infantile paralysis at Uppingham School; and whether any other public school had been attacked by this epidemic.—Mr. NEVILLE CHAMBERLAIN replied: According to the information in the possession of my department, this outbreak was limited to two cases, one of which proved fatal, but a third boy is reported to have developed the disease after his return home. The answer to the last part of the question is, as far as my information goes, in the negative.

MONDAY, NOV. 29TH.

BIRTHS AND DEATHS REGISTRATION BILL.

The Births and Deaths Registration Bill, as amended in Standing Committee, was considered on Report.

Mr. PETO moved the following new clause:—

"The death of any person shall not be registered unless and until there has been delivered to the registrar of the district in which such death has occurred a certificate signed by a medical practitioner of the fact of death and of the cause of death, as respectively in this Act defined, and such certificate shall be given only after the medical practitioner has seen the body."

He said that the Bill provided no machinery for the inspection of a body after death, and there was urgent need of it. There could be no disposal of the body without a registrar's certificate, but that certificate only stated that the registrar had registered the death. It was not worth while just for that to pass the Bill and incur all the public expense which this new machinery would involve. He hoped that the Parliamentary Secretary to the Ministry of Health would give an assurance that his department possessed powers to put an end to the present unsatisfactory state of affairs, and that a very large number of people supposed to be dead should not be in danger of immediate

burial, but that the fact that they were really dead should be certified by a medical man who had seen the body.

Mr. GROVES, in seconding the new clause, said that there was a growing interest in this question. There ought to be actual supervision of the dead and verification by a medical man before interment took place. It was announced by the Registrar-General that only 40 per cent. of the people buried in this country were certified on medical evidence to be actually dead. That was a very unsatisfactory state of affairs. There had been glaring instances where actual funerals had been commenced, in a sense, before death had taken place. He read a letter from an undertaker in Hull who stated that he was called to measure the body of a woman a few weeks ago, who had been laid out, and was said to have been dead for some hours. While at the bedside he noticed a slight movement of the fingers and eyelids, and a doctor was sent for. After his examination, the undertaker was told that his services would not be required. The woman actually died that evening. That was an isolated case, but it proved that there was something in this question. The whole matter was one of expense. The Government could not find the money to do what was required, and medical men would not do it without payment. After all, the panel doctor was responsible for his panel patient until life was extinct, and it ought to be his duty to certify that life was actually extinct after seeing the body. A similar set of circumstances should obtain in Poor-law institutions and hospitals. Where private families had their own doctors there would be no difficulty in the medical man paying an additional visit after death. The new clause gave the Government an opportunity to make the necessary representations to the British Medical Council seriously to consider the matter and to see if this long-standing grievance could not be brought to an end.

Lieut.-Colonel FREMANTLE said that this amendment was an alternative to that which he had put down, which was originally a specific clause in the Bill with which he was personally associated. In the Bills he had introduced in previous years on this subject, his aim had been to meet the particular objections put forward by Mr. Peto. He wished to satisfy those who feared that there was a danger of being buried alive, and he went into the matter very thoroughly and intimately with those concerned to see what could be done. The stage which Mr. Peto and his friends had reached was one he (Lieut.-Colonel Fremantle) had passed through with many others, but his hon. friends had not gone so deeply into the details. This matter was not merely one of expense; the real question was that it was impracticable from the point of view of the doctor's time. That argument really met what appeared, at first sight, to be the appalling statement that only 40 per cent. of deaths were certified after a personal view of the body by the doctor. If they referred to the experience of their own lives they could understand that if the doctor was visiting a patient regularly, over and over again, and the patient was gradually going downhill, the doctor could not be there, and had no cause to be there, every minute right up to the very last. The doctor saw the end coming, and he naturally discreetly retired. He would call in the course of his round, and he retired when there could be no question about the end in any case. Of the 60 per cent. of deaths certified without actual view of the body, they might take it that in practically every one of them the doctor was quite assured in his own mind, when he signed the certificate, that death had supervened, and was bound to do so. There might be a case of error here and there, but they should look at the doctor's practice. In ordinary practice, the doctor was busy on his round from the time he had finished his morning surgery until the evening. He had often no time for his meals, which as a rule were scratch meals. His was a "scratch" life, and every now and then he took what he could in the way of an hour off, which he enjoyed thoroughly. Members of the Labour Party were constantly raising the question of panel doctors having too many patients on their panel, while others were not sufficiently occupied. He admitted that the proposal would give greater confidence to the public, but it was impracticable for the simple reason that there were only a certain number of doctors in this country and, in a very large number of areas, they were occupied for practically the whole of their time. If this extra duty were thrown on the doctors, they would undertake it, but it would be at the expense of their other patients. It was a question of proportion. The only way to meet the case was that suggested in an amendment of which he had given notice. That amendment suggested that after consultation with the Government department, a special officer might be appointed for this special purpose. His amendment proposed that the county boroughs might, where they wished, appoint a special officer, and no doubt some of the boroughs—the L.C.C. would have done so—would have appointed a man who would have helped materially in the worst cases. That would have been a trial experiment of incalculable value, and he was very sorry that the Society that had this fear of premature burial did not accept this half-measure, but went out for the whole proposal in Mr. Peto's amendment. As so often happened, in aiming at the impracticable the Society had lost the half loaf which he had offered.

Dr. VERNON DAVIES said that he had not the slightest hesitation in saying that so far as the towns were concerned and the districts near towns, the proposal that the doctor should see the body after death was perfectly feasible. In 23 years' practice he had only failed once to see a patient after death. In the case of the country districts the matter was not so easy, as a doctor might have to come 20 miles to see a body. If something could be done to meet the case of the country areas he would be prepared to support the proposal.

Sir KINGSLEY WOOD (Parliamentary Secretary to the Ministry of Health) said that under the Act of 1874 a doctor in attendance on a deceased person in his last illness was required to give a certificate as to the cause of death to the best of his knowledge and belief. If there was no medical certificate, the registrar referred the question at once to the coroner, and if the death was due to an accident, an industrial disease, or other cause which was appropriate for consideration by the coroner, the registrar referred it to the coroner for registration. The certificate was thus even under present circumstances an important element in the evidence determining how the case was to be treated. A doctor was not required to see the deceased person after death, nor was it essential for the purposes of a certificate that he should do so. In ordinary cases where he had attended the deceased until shortly before death, and was informed by a relative that death had taken place, that knowledge would enable him to certify the cause of death, provided the cause of death was consistent with the opinion he had formed of the disease which was the cause of death. Hon. Members had urged that an inspection of the body should take place in every case by a medical man before a certificate was given. It would be a great pity to imperil the very useful provisions of this Bill, which had been supported by all parties, because of a question of this kind, and under those circumstances they had considered what steps could be taken to meet the views of his hon. friends and others who felt strongly on this matter. It was true that in about 40 per cent. of cases the doctors did see the deceased after death, but the difficulty of meeting the situation was very largely experienced in the rural areas. It was very difficult to impose not only on medical men but on the families of the deceased persons charges and expenses which in many cases they would resent. Therefore he suggested that the case might be met by the Registrar-General's office extending the system of the reference by registrars to coroners on the facts as disclosed by the medical certificate of the cause of death. If that policy was pursued, as they intended that it should be, the certificate would show whether the doctor had seen the deceased after death, and how long before death he last saw him alive; and it would thus be possible to see that any case not seen after death, or a reasonably short period before death, would come under review by the coroner before registration or burial. It was to be anticipated that this arrangement in addition to bringing a large class of the more doubtful cases under special review, would greatly increase the proportion of cases seen by a doctor after death, and the improvement in that respect would be progressive to the extent of reaching by stages a standard which even Mr. Peto might regard as satisfactory. In order that the progress and success of this course of action might be properly watched, the Registrar-General would obtain statistics showing the proportion of deaths certified by doctors who had seen the deceased after death, and he (Sir K. Wood) would undertake that these figures should be published in the Registrar-General's annual publication. The Minister of Health was also prepared to say that if the result of the action now proposed was ineffective, he would be prepared to reconsider the whole question with a view to securing the object which they had in common by other means, either by executive or legislative action.

Mr. PETO withdrew his new clause.

The Report stage of the Bill was completed.

Sir KINGSLEY WOOD moved an amendment to provide that the Bill should come into operation on July 1st instead of Jan. 1st. He said that this was necessary in order to allow certain arrangements to be made.

The amendment was agreed to.

On the motion that the Bill be read a third time,

Mr. GROVES, in supporting the Third Reading, repeated his plea that panel doctors should view the body before certification.

Lieut.-Colonel FREMANTLE thanked the Ministry of Health and the House for supporting the Bill. He said that the feature of it which would be found most useful would be the notification of still-births.

The Bill was read a third time.

## MENTAL DEFICIENCY BILL.

Mr. NEVILLE CHAMBERLAIN, Minister of Health, in moving the second reading of the Mental Deficiency Bill (which has already passed through the House of Lords), said that it was a measure which was urgently required in the interests of mental defectives themselves. The real substance of the Bill was to be found in the first clause which extended the definition of defectives. Hitherto they had found themselves limited and to some extent cramped in dealing with mental defective cases which were not defective from birth or early age. There had been some extremely painful and distressing cases of encephalitis lethargica in which most serious changes had taken place, but as the boy or girl was not of an early age, he or she could not be dealt with under the existing law. The Bill had been altered so that cases could be dealt with in which the mental deficiency was due to disease, injury, or other causes. Although the existing Act authorised combination of local authorities, it did not enable the local authority to provide additional beds which could be lent to other authorities, but Clause 6 of this Bill provided for such procedure and enabled the local mental deficiency authority, and the local education authority who had responsibility for certain classes of defectives of school age, to provide an institution jointly. He hoped that mutual arrangements would be come to whereby the best use would be made of the provisions of this Bill, which had the unqualified support of the Central Association for Mental Welfare, which comprised 50 voluntary associations throughout the country. The measure did not interfere in any way with the safeguards in the Mental Deficiency Act. They all recognised the strong public anxiety that people should not be treated as mental defectives without sufficient cause. A mental defective might only be dealt with by Order if in addition to being a mental defective he was found "neglected, abandoned, or without visible means of support, or cruelly treated; if he is found guilty of some criminal offence, or if he is undergoing imprisonment, or is an habitual drunkard within the meaning of the Inebriates Act; if he is notified by the local education authority as a mental defective needing care and control; or in the case of a woman, if she is in receipt of poor relief at the time of giving birth to an illegitimate child." In addition to these general limitations, there were the following further safeguards. There must be two medical certificates, one of which must be signed by a medical practitioner specially approved for the purpose, and the case then came before a judicial authority. The judicial authority must be satisfied that the person was a defective and that he was a subject to be dealt with under the Act for one or other of the reasons mentioned above; and then the judicial authority was only empowered to make an Order if he thought it desirable to do so in the interests of the defective. All these safeguards applied before the case was sent to an institution for care and treatment. At the end of a year special medical and other reports had to be made on each case and forwarded to the Board of Control. If the Board, after considering these reports and the means of care and supervision which would be available if the defective were discharged, came to the conclusion that the continuance of the Order was required in the defective's interest, they might order continued detention in the institution for a further year. The same procedure was followed at the end of succeeding periods of five years each. In the case of a defective under the age of 21 there was the further safeguard—namely, that the visitors might, when the case arrived at the age of 21, discharge the defective if they thought that his detention was no longer required in his own interest. All defectives detained under the Mental Deficiency Act were visited by members of the Board of Control from time to time. If at any time the Board felt that any particular defective could with advantage to himself and without danger to the public be discharged, they had power to discharge him. As the existing safeguards were not diminished, he put it to the House that ample safeguards were already provided to see that no injustice or miscarriage of the beneficent provisions of this Bill should take place.

Mr. RHYS DAVIES moved the rejection of the Bill. He said that no one on the Opposition side of the House wished to prevent the Minister of Health from dealing with the consequences of that terrible disease, sleepy sickness. When, however, this Bill was introduced in the House of Lords, the only substantial reason given by the mover was that the Ministry of Health had consulted some medical experts on the subject of widening the scope of the Act of 1913. The question was much too big to be settled by medical experts alone. Up to 1913, as he understood, the doors of mental institutions were as wide open as the Minister of Health now wished to make them for placing people in these institutions, but because of an agitation throughout the country against putting people away in such institutions who ought never to be there, an Act was passed limiting the number of cases, and specifying what type of case was to be dealt with. The Minister by this Bill was going to destroy practically all the main provisions of the Act of 1913. This Bill was not confined to children; it opened the door so that anyone of any age might be dealt with. Having studied the Report of the Royal Commission on Lunacy, he could see no indication in the recommendations with regard to this point. Surely, if the Royal Commission had thought that an amendment of the law on these lines was desirable, they would have made a recommendation on the matter. Again, a committee had recently submitted a report on the question of sexual offences against young persons. In that report, however, there was a definite recommendation that this change should be made. Another committee on Juvenile Offences was still deliberating, and he thought that it was very unwise to bring in a Bill of this kind before the reports of all these committees had been considered by the Government.

Mr. R. MORRISON seconded the motion for rejection.

Commander WILLIAMS said that if the Bill was to have a second reading the House ought to have some sort of explanation as to how far it was intended to carry it, and whether the burdens were going to be mainly on the taxpayer or on the ratepayer. Was it likely to mean an enlargement of the present institutions and staff? If they had not sufficient staff and sufficient institutions, it was not very useful to try to enlarge the number of people they were going to take in.

Mr. AMMON said that he was a little concerned about the classification of encephalitis lethargica cases, which were not what were known medically as mental defectives. Magistrates and judges who had had cases of this kind before them had deplored the fact that they had either to make criminals of the persons charged or to send them to asylums as mental defectives. Some accommodation should be provided for such cases. Under this Bill there was no guarantee that any special care would be given to these people.

Sir KINGSLEY WOOD said that taking the cases throughout the country there was not sufficient accommodation at present, but this Bill would enable the accommodation which at present existed to be more usefully employed. Mr. Rhys Davies was not quite correct when he said that they were destroying the main provisions of the Act of 1913, because prior to that Act there was no power in this country to deal with mental defectives at all. It was quite true that in certain respects they were opening the door by this Bill, and it was very necessary that the door should be opened. In their latest report the Board of Control, after referring to the number of cases which had unhappily arisen in this connexion, said: "There are certain legal difficulties of bringing some defectives of this class under the Mental Deficiency Act, though they are clearly in need of the care and control for their protection which would be provided under that Act." They needed more of the hospital spirit in the treatment of these unfortunate people, and under this Bill the treatment was firstly, supervision, secondly, guardianship, and thirdly, institutional care. The definition in the Bill had been very carefully settled by many eminent medical men whom they had called into consultation, with a view to arriving at something that would meet all classes of cases which ought to be treated. No financial resolution was required for this Bill; therefore, as far as the taxes were concerned, they were not making any further demand on the community. But the measure might very well call for further assistance from the rates. In the long run, whatever might be the immediate expense, it would be better both for the rates and the taxes that this Bill should be passed.

Sir H. SLESSER said that the Bill introduced an entirely new class of persons into the category of mental defectives. Before 1913 there was no such creature known to the law as a mental defective; then, after great discussion the definition of the 1913 Act was set up, and the description was limited to persons who were mentally defective from birth or an early age. Now they had an entirely new proposition, which was that the term should include anybody of any age who happened by injury, disease, or other cause to become what a doctor considered to be a mental defective, and what a magistrate or a court was prepared to certify as such under the terms of the measure.

Mr. CHAMBERLAIN said that he thought that the hon. and learned Member was under a misapprehension. The words used were "development of mind," and development of mind only took place before adult age, and therefore the definition was really limited.

Sir H. SLESSER said he could not accept that view. The Bill dealt with every "disease, injury, or other cause," and who knew where this thing would end? He wanted to be sure that at any rate someone had made a protest that this was a dangerous course on which they were embarking on insufficient information.

Dr. VERNON DAVIES said he was not sure whether he understood the Minister when he referred to the case of encephalitis lethargica to refer to elderly people. The Bill referred to a condition of arrested or incomplete development of mind. A man of 50 who got encephalitis lethargica

and developed some of these awful symptoms afterwards was not necessarily suffering from arrested or incomplete development. It was a perverted development, and the great benefit of this Bill was that it enabled them to take charge of these sad cases. It was just as important that a man of 60 or 70 years of age should be under control after this disease as a child of 9 or 10. He would like to be quite certain whether people of all ages could be included under the Bill. He should also like, before the Committee stage, to see if they could not introduce the words "or perverted" into the definition of mental defectives, because arrested or incomplete development was not sufficient.

Captain W. BENN asked the Minister of Health whether the Bill applied only to adolescents or to persons of all ages.

Mr. CHAMBERLAIN said that Dr. Davies had confirmed his view that the Bill as it stood did not deal with people suffering from perverted development. He took it that the hon. Member thought it might arise where a person had arrived at a later age. That was a point which must be considered in Committee. As far as his own view was concerned, clearly it was impossible at present to deal with all ages; it was only possible to deal with those mental defectives whose development had been arrested, or rendered incomplete by one of the causes specified.

Lieut.-Colonel FREMANTLE said he had had the privilege of serving on committees with the experts who drew up the definition, or something like it, and submitted it to the Ministry of Health. It was quite clear in their mind that they wished only to extend the definition to adolescents, and not to extend it to later ages. They did not consider these cases sufficiently numerous to require the definition to extend to them. But even the most learned experts of the medical profession were liable to err in their definitions.

Mr. RHYS DAVIES withdrew his motion for rejection.

The Bill was read a second time and committed to a Standing Committee.

*Milk Regulations and Imported Milk.*

Brigadier-General CLIFTON BROWN asked the Minister of Health whether milk produced in Ireland, the Channel Islands, and the Isle of Man would come under the Public Health (Imported Milk) Regulations, 1926, or under the Milk and Dairies Order, 1926, for England; and, if it came under the latter, what steps were to be taken to see that the Order was carried out in the above-named countries.—Sir KINGSLEY WOOD replied: Milk brought from Ireland, the Channel Islands, and the Isle of Man will not come under either the Public Health (Imported Milk) Regulations or the Milk and Dairies Order.

TUESDAY, NOV. 30TH.

*Smoke Nuisance at Palace of Westminster.*

Mr. BENJAMIN SMITH asked the Under Secretary of State for the Home Department, as representing the First Commissioner of Works, whether his attention had been called to the volumes of black smoke issuing from the smoke-stack of the Palace of Westminster between the hours of 10 and 11 A.M.; whether any complaints had been received from St. Thomas's Hospital; and whether any summons from the local authority had been received for the abatement of the nuisance caused.—Captain HACKING replied: As regards the first part of the question, the attention of my right hon. friend has been called to this nuisance, which is due to the use of foreign coal, and it is hoped that an improvement will be effected when we are able to revert to the use of Welsh coal. The answer to the second and third parts of the question is in the negative.

*Ventilation Experiment in Postal Tube.*

Mr. THURTLE asked the Secretary of State for War if he could make a statement as to the object of the recent action of his department in sending a company of soldiers into the London postal tube and keeping them there for a number of hours.—Sir L. WORTHINGTON-EVANS replied: The experiment was designed to furnish data regarding the ventilation required under certain conditions in underground shelters, such as dug-outs.

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THE LATE DR. J. H. REYNOLDS.—Dr. Joseph Henry Reynolds, who died on Nov. 12th, had worked in Fulham for nearly a quarter of a century and had built up a large practice in the district. He was a son of the late Mr. James Reynolds and was born in 1870 at Gloucester, where he was educated at the Crypt Grammar School. He went to London as a student at the Middlesex Hospital and graduated M.B., C.M. in the University of Edinburgh in 1896. He then held a series of house appointments at the Edinburgh Royal Infirmary and at the Miller Hospital, Greenwich, later becoming assistant medical superintendent at the Brentford Union Infirmary. At his death Dr. Reynolds was 56 years of age. He married a daughter of the late Lieut.-Colonel R. A. V. Pope, and she survives him.

# Medical Diary.

*Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.*

## SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY, Dec. 7th.—8.30 P.M., PATHOLOGY. Laboratory Meeting in the Inoculation Department, St. Mary's Hospital, Paddington, W. Communications, &c.: Sir Almroth Wright: New Technique for Measuring the Bactericidal Power of Blood. V. D. Allison and A. Fleming: Some Experiments on Lysozyme. E. W. Todd: Observations on the Virulence of Hæmolytic Streptococci. J. Freeman and D. M. E. Thomas: Reaction of the Guinea-Pig Uterus to Pollen. A. Fleming and I. Maclean: Toxic Granules in Leucocytes. W. Newcome: Recent Pathological Specimens. 8.30 P.M. ORTHOPÆDICS. Discussion: The Treatment and Results of Fracture of the Upper End of the Femur in Adults (excluding the shaft). Mr. S. L. Higgs will read the opening paper. Other speakers: Prof. Noordenbos (of Amsterdam), Sir Charters Symonds, Mr. T. H. Openshaw, Mr. Hey Groves, Mr. R. C. Elmslie, Mr. Magnus Redding, Mr. E. M. Cowell, Mr. Rowley Bristow, Mr. H. A. T. Fairbank, Mr. A. H. Todd.

THURSDAY.—8.30 P.M., NEUROLOGY. Mr. Macdonald Critchley: Mirror Writing and its Significance. STUDY OF DISEASE IN CHILDREN AND PSYCHIATRY: Members of these Sections are invited to attend this meeting and take part in the discussion.

FRIDAY.—5.30 P.M., CLINICAL. (Cases at 5 P.M.) Cases: Mr. P. Turner: A Case of Old Osteomyelitis of Astragalus. Dr. Worster-Drought: Two Cases of Serratus Magnus Paralysis. Mr. A. E. Mortimer Woolf: (1) Lymphangioma of Tongue; (2) Hæmangioma of Tongue. Dr. L. S. T. Burrell: A Case of Acrocyanosis. Mr. E. Pearce Gould: Sebaceous Horn of the Cheek. Dr. Bedford: Two Cases of Aneurysmal Dilatation of Left Auricle (with mitral stenosis). Mr. W. H. Ogilvie: A Case of Infantile Paralysis with Sexual Precocity. Dr. Parkes Weber (with Dr. Gunewardene): Lipodystrophia Progressiva, with Face only Affected. Mr. L. R. Broster: Ulcer of the Hand for Diagnosis. 5 P.M., OPHTHALMOLOGY. Clinical Meeting at the Central London Ophthalmic Hospital.

BIOCHEMICAL SOCIETY.

MONDAY, Dec. 6th.—5 P.M. (in the Biochemical Laboratory, Imperial College of Science and Technology, South Kensington). Communications: Dr. Krestin and J. R. Marrack: The Calcium in Body Fluids in Nephritis. D. Jordan Lloyd: The Mutual Influence of pH and Salt Concentration on Protein Swelling. C. R. Harington and G. Barger: Chemistry of Thyroxin. III. Constitution and Synthesis of Thyroxin. H. W. Buston and S. B. Schryver: The Basic Hydrolysis Products of Gelatine. I. M. Heilbron, E. D. Kamm, and R. A. Morton: Absorption Spectra of Cholesterol and its Possible Biological Significance with Reference to Vitamin D. O. Rosenheim and T. A. Webster: Further Observations on the Photochemical Formation of Vitamin D. A Demonstration of Methods Employed for Purifying and Investigating the Proteins (Electro-dialysis, &c.) will be given.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

THURSDAY, Dec. 9th.—8.15 P.M., preceded at 7.45 P.M. by a demonstration on Some Tropical Liver Infections. Dr. H. S. Stannus: Tropical Neurasthenia.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, Dec. 6th, to SATURDAY, Dec. 11th.—FELLOWSHIP OF MEDICINE. Special Lecture at the Medical Society, 11, Chandos-street, W. Thurs., Dec. 9th, at 5 P.M., Mr. L. Bathe Rawling: On Injuries of the Head. Free to all members of the medical profession.—INFANTS HOSPITAL, Vincent-square, S.W. Special course on Diseases of Infants. Every afternoon from 2 P.M. Special Lectures and Demonstrations. Sat., Visit to the model pasteurising plant, Willesden.—ST. JOHN'S HOSPITAL, Leicester-square, W.C. Last week of Special Course in Dermatology.—WEST END HOSPITAL FOR NERVOUS DISEASES, Welbeck-street, W. Last fortnight of Special Course of Lecture-Demonstrations upon selected neurological cases. Every afternoon at 5 P.M. Further information from the Secretary.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY, Dec. 6th.—10 A.M., Surgical Clinic. 2 P.M., Medical Cases in the Wards. 2.30 P.M. to 5 P.M., Medical, Surgical, and Gynæcological Clinics. Operations.

TUESDAY.—2.30 P.M. to 5 P.M., Medical, Surgical, Throat, Nose, and Ear Clinics. Operations.

WEDNESDAY.—2.30 P.M. to 5 P.M., Medical Skin and Eye Clinics. Operations.

THURSDAY.—11.30 A.M., Dental Clinic. 2.30 P.M. to 5 P.M., Medical, Surgical, and Ear, Nose, and Throat Clinics. Operations.

FRIDAY.—10.30 A.M., Throat, Nose, and Ear Clinics. 2.30 P.M. to 5 P.M., Surgical, Medical, and Children's Diseases Clinics. Operations.
On Thursday, Dec. 9th, at 2.30 P.M., there will be a special demonstration of Surgical Cases by Mr. W. C. Tanner.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, Dec. 6th.—10 A.M., Mr. MacDonald: Genito-Urinary Operations. 12 noon, Mr. Simmonds: Fractures and Applied Anatomy. 2 P.M., Mr. Donald Armour: Operations.
TUESDAY.—10 A.M., Medical Registrar: Clinical Methods. 12 noon, Dr. Burrell: Chest Cases. 2 P.M., Mr. Sinclair: Surgical Out-patients.
WEDNESDAY.—12.15 P.M., Dr. Burnford: Medical Pathology. 2 P.M., Mr. Tyrrell Gray: Operations. 2 P.M., Dr. Owen: Medical Out-patients.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Department. 2 P.M., Mr. Bishop Harman: Eye Department. 3 P.M., Sir Henry Simson: Gynæcological Wards.
FRIDAY.—10.30 A.M., Dr. Dowling: Skin Dept. 11 A.M., Dr. Pritchard: Modern Methods in Medicine. 2 P.M., Mr. Vlasto: Throat, Nose and Ear Dept.
SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.
Daily, 10 A.M. to 5 P.M., Operations, Medical, Surgical, and Special Out-patient Departments, Saturdays, 10 A.M. to 1 P.M.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell-square, W.C.
TUESDAY, Dec. 7th.—9 P.M., Mr. A. C. Morson: Peccant Prostate.
THURSDAY.—9 P.M., Sir Charters Symonds: Carcinoma Œsophagus.
FRIDAY.—9 P.M., Mr. T. H. A. Chaplin: Medical Service at Sea in the Mercantile Marine.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street.
THURSDAY, Dec. 9th.—4 P.M., Mr. O. L. Addison: Cleft Palate.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn-road, W.C.
FRIDAY, Dec. 10th.—4 P.M. Mr. Nicol Rankin: Earache.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.
TUESDAY, Dec. 7th.—5 P.M., Dr. W. Griffith: Eczema (1).
THURSDAY.—5 P.M., Dr. W. Griffith: Eczema (2).

MANCHESTER ROYAL INFIRMARY POST-GRADUATE COURSE.
TUESDAY, Dec. 7th.—4.15 P.M., Dr. J. Shaw Dunn: Some Points Respecting Mineral Metabolism.
FRIDAY.—4.15 P.M., Dr. F. E. Tylecote: Syphilis of the Lungs.

UNIVERSITY OF SHEFFIELD POST-GRADUATE CLINICS.
FRIDAY, Dec. 10th.—3.30 P.M., at the Royal Infirmary: Dr. Barnes: Medical Clinical Cases.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell-square, W.C.
WEDNESDAY, Dec. 8th.—4 P.M., Lieut.-Colonel F. E. Fremantle: The Rôle of Parliament in Regard to Health Legislation.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.
TUESDAY, Dec. 7th.—4 P.M., Prof. G. Lovell Gulland: High Blood Pressure, Albuminuria and Glycosuria in their Relation to Life Insurance. Discussion to be opened by Dr MacTier.

# Appointments.

DUNCOMBE, C., M.B., B.Ch. Camb., D.P.H. Oxf., has been appointed Assistant Medical Officer of Health for Doncaster and Schools Medical Officer.
FAIRER, J. A., M.B., Ch.B. Manch., D.P.H., Medical Officer of Health for Leicestershire.
TAYLOR, J. S., M.B., Ch.B. Aberd., Assistant Medical Officer of Health for Manchester.

Certifying Surgeon under the Factory and Workshop Acts: WHITBY, R. B., M.B., Ch.B. Brist. (Mere District of Wiltshire); WATT, J. C. (Tunbridge Wells); MCENTEE, E. F., M.B., Ch.B. Belf. (Castleton District of the County of Derby).

# Vacancies.

*For further information refer to the advertisement columns.*

*Acton Hospital, Gunnersbury-lane, Acton, W.*—Res. M.O. £150.
*All Saints' Hospital for Genito-Urinary Diseases, Vauxhall Bridge-road, S.W.*—Res. Sen. H.S. Also Hon. Res. Jun. H.S. At rate of £200 and £100 respectively.
*Ashton-under-Lyne District Infirmary.*—H.S. At rate of £150.
*Birkenhead Borough Hospital.*—Cas. H.S. £100.
*Birmingham and Midland Eye Hospital.*—Two H.S.'s. £120 and £110 respectively.
*Blackpool, Victoria Hospital.*—Asst. H.S. £120.
*Bridgwater General Hospital.*—H.S. £130.
*Brighton, Borough Infectious Disease Hospital and Sanatorium.*—Res. M.O. £350.
*Brighton, Royal Alexandra Hospital for Sick Children.*—H.S. At rate of £100.
*Brighton, Sussex, Maternity and Women's Hospital.*—Second Hon. Obstet. Phys.
*Cairo University.*—Prof. of Pathology, £E.2000. Also Prof. of Bacteriology £E.1500.
*Cancer Hospital, Fulham-road, S.W.*—Pathologist. £1000.
*Canterbury City and Borough, &c.*—M.O.H. and School M.O. £800.
*Cardiff City, Mental Hospital, Whitchurch.*—Res. Clin. Asst. 50 guineas for six months.
*Chester Royal Infirmary.*—Second and Third H.S.'s. Each £150.
*City of London Hospital for Diseases of Heart and Lungs, Victoria Park, E.*—Res. M.O. £250. H.P. At rate of £100. M.O. to Out-patient Dept. At rate of £150.
*Dreadnought Hospital, Greenwich.*—H.P. and H.S. Each at rate of £110.
*East African Medical Service.*—Two Asst. Bacteriologists. £600.
*East London Hospital for Children and Dispensary for Women, Shadwell, E.*—H.S. At rate of £125. Also Part-time Pathologist. £400.
*Hampshire County Council.*—Dental S. £500.
*Hospital for Sick Children, Great Ormond-street, W.C.*—Surg., Phys. to Out-patients. Anæsthetist. £15 15s.
*Liverpool, St. Paul's Eye Hospital, Oldhall-street.*—H.S. At rate of £60.
*London Hospital, E.*—First Asst. and Reg. to one of the five Surgical Firms. £300.
*London Lock Hospital, 91, Dean-street, W.*—Clin. Assts. to Out-patients.
*Macclesfield, Cheshire County Mental Hospital, Parkside.*—Asst. M.O. £350.
*Maidstone, Kent County Ophthalmic Hospital.*—Hon. Ophth. S.
*Manchester, Ancoats Hospital.*—H.S. At rate of £100.
*Manchester Royal Infirmary.*—Asst. Reg. Surg. O. At rate of £150.
*Manchester, St. Mary's Hospital.*—Hon. Asst. S.
*Middlesex Hospital and Medical School.*—Surg. Registrar and Med. Registrar. Each £300.
*Miller General Hospital for South-East London, Greenwich-road, S.E.*—Res. Cas. O. £150. Also H.S. £125.
*Norwich, Norfolk and Norwich Hospital.*—H.P. and H.S. Each £120.
*Nottingham City Laboratory.*—Pathologist. £750.
*Nottinghamshire County Council, &c.*—Asst. Sch. M.O. and Dist. M.O.H. £700.
*Plymouth, South Devon and East Cornwall Hospital.*—Jun. H.S.
*Queen Charlotte's Maternity Hospital, Marylebone-road, N.W.*—Asst. Res. M.O. At rate of £80.
*Royal Army Medical Corps.*—Commissions.
*Royal Free Hospital, Gray's Inn-road, W.C.*—Orthopædic Surg.
*Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.*—H.P. At rate of £100.
*Ruthin Castle, North Wales.*—Jun. P. At rate of £200.
*Ryde, Royal Isle of Wight County Hospital.*—Vacancy on Hon. Med. Staff.
*Salford Royal Hospital.*—Res. Surg. O. £200. Two H.S.'s, H.P., and Cas. H.S. Each at rate of £125.
*Swansea General and Eye Hospital, Beck Laboratory.*—Asst. Pathologist. £500.
*Wallasey, Victoria Central Hospital.*—Jun. H.S. £100.
*West Bromwich County Borough.*—M.O.H. £1000.
*West London Hospital, Hammersmith, W.*—Phys. Also H.S., H.P., Res. Asst. Cas. O., and Aural and Ophth. H.S. Each at rate of £100.
*Winchester, Royal Hampshire County Hospital.*—H.P. At rate of £150.
*Wolverhampton and Staffordshire Hospital.*—Res. M. O. At rate of £150.
*Wrexham and East Denbighshire War Memorial Hospital.*—Two Res. H.S.'s. Each at rate of £100.

The Chief Inspector of Factories announces a vacant appointment for a Certifying Factory Surgeon at Crediton (Devon).

# Births, Marriages, and Deaths.

## BIRTHS.

BURRELL.—On Nov. 21st, at "Dunley," Knutsford, the wife of Dr. E. M. Burrell, of a daughter.
BUXTON.—On Nov. 24th, at Queen Anne-street, W., the wife of St. J. D. Buxton, F.R.C.S., of a daughter.

## MARRIAGES.

FREW—MORTON.—On Nov. 25th, at the Presbyterian Church, Putney, John Frew, M.B., D.P.H., to Katharine Matheson, eldest daughter of Dr. and Mrs. John Morton, Gwendolen-avenue, Putney.

## DEATHS.

BUTCHER.—On Nov. 25th, suddenly, at "Grangefield," Park-road South, Birkenhead, Arthur Herbert Butcher, M.R.C.S., L.R.C.P.
PENNY.—On Nov. 27th, at Querns Cottage, Swanage, Edward Penny, M.D., late of Marlborough.

*N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

# Notes, Comments, and Abstracts.

## LONDON POST-GRADUATE HOSTEL:
## CLINICAL REMINISCENCES.

ON Nov. 1st Sir JAMES DUNDAS-GRANT gave, at the Post-Graduate Hostel, Imperial Hotel, Russell-square, an address entitled Clinical Reminiscences.

Like a certain set of comedies, he said, clinical reminiscences might be classified as pleasant and unpleasant, whilst a further group might be added under the heading of "peculiar." Among pleasant reminiscences he could recall many cases of vertigo of the Ménière type relieved by ossiculectomy or by small doses of quinine. In some of them the patients had had fulminating epileptiform attacks and cholesteatomatous changes in the middle ear, particularly in the attic where the desquamative products were shut in by the ossicles. In these cases removal of the ossicles had permitted free escape of the accumulations and complete relief from the attacks. It was sometimes asked whether hearing was destroyed by the removal of the ossicles. Sir James Dundas-Grant answered this question by showing a case in which the ossicles had been removed because of persistent attic suppuration. Before operation the deafness was very considerable but now the patient could hear a soft whisper at the distance of 18 feet.

The value of small doses of quinine, continued Sir James Dundas-Grant, had been shown in many cases referred to the ear department of the West End Hospital for Nervous Diseases. In a large proportion relief had followed the administration of doses as small as one-half or even a quarter of a grain thrice daily, the vertigo returning when the quinine was omitted and disappearing again on its resumption. By Bárány's caloric test it had been found that the quinine acted as a sedative to the labyrinth of the healthy side.

The lecturer then demonstrated the method of testing the activity of the labyrinth by means of cold air. He regarded it as very effective and devoid of the discomfort and danger attending the use of cold water for the purpose. Nystagmus to the opposite side, with vertigo, postural deviation, and past-pointing to the same side was induced in normal persons in 29 or 30 seconds; but in a patient with nerve-deafness, who was shown, no reaction could be produced in over a minute and a half. To test the state of the nerve trunk galvanism was useful; one electrode was placed on the ear to be tested, the other on an indifferent part of the body, such as the back of the neck. If the cathode was applied and the current increased to 10–14 milliampères a definite nystagmus usually developed to the same side ("comes to the cathode"). The process, however, was very unpleasant and with a few milliampères a swaying of the body to the opposite side could be induced, showing the functional activity of the nerve.

Among less pleasant reminiscences, continued Sir James Dundas-Grant, were those of obstinate tinnitus aurium in which no gross aural cause could be detected. In some of these the application of the anodal galvanic pole—about 5 milliampères for five or ten minutes—afforded relief. The cathode could be placed on the hand and a binaural rheophore might be used for conveying the anodal current to both ears simultaneously. Care had to be taken to avoid an anodal opening shock. A special type of complaint was pulsating tinnitus synchronous with the pulse. When this tinnitus could be checked or diminished by pressure on the vertebral arteries in the suboccipital triangles it was often due to vasomotor disturbance and responded to bromides. He demonstrated the method of exercising compression on the arteries with the thumb and middle finger of one hand, whilst making counter pressure on the forehead with the other hand.

He had pleasant reminiscences, he said, of cases of obstinate deafness due to extreme catarrhal narrowing of the Eustachian tubes, in which unexpected improvement had followed the use of Weber-Liel's fine intratympanic tube passed through the Eustachian catheter when simple catheterisation had been quite ineffective in his hands and those of others.

For prophylaxis against tonsillitis Sir James Dundas-Grant advocated the use of thymol water as a gargle, and in reply to a suggestion that fluids used as gargles did not reach the tonsils, he demonstrated von Troeltsch's method of gargling, in which, with the head thrown back and the mouth kept open, the fluid was submitted to the movement of swallowing without, if possible, any being allowed to go down the throat. He had tested this method by having a culture taken from his own tonsils before and after gargling with thymol water; the colonies were extremely numerous before and almost absent afterwards.

Among peculiar reminiscences, he recalled a case of cough attributed to tuberculosis of the larynx, in which no laryngeal disease had been found but only symptoms of abscess of the liver, and a case in which suffocative attacks in a male infant were not due to presumed laryngeal obstruction but to spasm of the glottis associated with priapic manifestations afterwards cured by circumcision.

## PASSPORTS FOR THE ITALIAN RIVIERA.

THE recent provision of the Italian Government with reference to passport regulations does not affect intending British visitors to the Italian Riviera. Dr. H. J. Spon writes from Ospedaletti to say that they are now, as always, heartily welcomed throughout Italy.

The Government luxury tax on hotel bills has been abolished, while the Communal Taxe de Séjour remains in force, and, in Ospedaletti, for example, has been fixed at rates varying from 50 centesimi to 2 lire per day per person, according to the class of hotel. This tax must be paid for any period up to 50 days, after which time no further payment is necessary throughout the season. In Ospedaletti pension terms are the rule; in the smaller hotels, 35/40 lire per day per person; in the more pretentious, 50/70 lire, while two single rooms, or a double-bedded room, with bathroom, can be secured on terms ranging from 110/150 lire per day. Arrangements can be made also to include the small additional charge for central heating and the 10 per cent. service tax.

## ACCIDENTS WITH ELECTRICITY.

So few accidents are reported from the use of electric light and heat that most people have forgotten that a current of 100–250 volts laid on for domestic purposes may prove as dangerous as the high-tension supply which inspires respect in everyone. Dr. A. Zimmern has contributed to a recent issue of the *Bruxelles Médical* a long article on the way in which domestic accidents may be caused and prevented. Most mishaps, he says, come about through the tendency of all currents to go to earth. If the insulation of a switch or lamp is broken down and the metallic part is in contact with the supply of electricity, anyone touching it may act as a bridge through which a large proportion of the current returns to earth. Linoleum or carpet may block the path of the current, but a person standing on a floor of damp concrete or wet earth will certainly get a severe shock. Hand-lamps with a flexible lead are thus responsible, says Dr. Zimmern, for a good many deaths, and it is especially risky to hold a lamp in one hand and turn on a water-tap with the other. It is even more dangerous for anyone in a bath to handle electric apparatus, whether alight or not, for the bath is a perfect earth and the soaked skin so excellent a conducter that quite an insignificant current is enough to cause death.

It seems that a subject whose attention is concentrated suffers less from a shock than one who is relaxed, but, curiously enough, this rule does not apply to the relaxation of sleep. An anæsthetised rabbit remains unharmed by a current that would kill a conscious rabbit, and men who have been struck, whilst asleep, by fabulously high voltages have awakened slightly stunned, but unhurt. Cardiac debility, says Dr. Zimmern, does not add to the danger of a shock, and it is not clear why some people are not more susceptible than others. According to most authorities the immediate effect of a shock is to inhibit respiration by its action on the medulla, and the first-aid treatment is, therefore, artificial respiration. Jellineck states that hardly anyone is killed outright by electric shock, and that there would be few deaths if prompt and adequate treatment were applied. The asphyxiation, especially in shocks from low voltages, can also be due to tetanisation of the respiratory muscles. Oliver and Bolam, however, found in 1898 that when an animal was subjected to an electric shock the first effect was a stoppage of the heart and a tremor of the fibrils of the ventricle, with secondary asphyxia. This fibrillary tremor is not necessarily fatal to animals; how it concerns man is still a matter of theory.

The first act of the rescuer must be to cut off the supply. Sometimes a man surprised when working on high cables hangs by his hands in a state of spasm, and the circuit should not be broken until his descent has been provided for. It is disastrous to handle a person who is still in contact, as he is for the time being a live wire himself. If the current cannot be cut off, rescue may be tried by means of a piece of wood or a rope, but they must be dry. An electrocuted patient is to be treated as if drowned. Animals have been revived by heart massage and intracardiac injections of camphor, but the result of this treatment in man remains to be reported. The Schäfer method of resuscitation is still the best, and should be started at once. It has the advantage over Sylvester's method that it is less exacting to the operator and does not require extension of the tongue. The Panis artificial respiratory apparatus, which is worked by a lever and can be used for hours on end with little fatigue, is invaluable for these cases. The movements should be continued as long as there is no positive evidence of death. Dr. Zimmern recalls how an electrician once described to

him his anguish when, on the verge of recovering consciousness after a severe shock, he heard, as from afar off, one of his rescuers remark, "Better give up. He'll never come back."

## CONTRACEPTION TEACHING AT WELFARE CENTRES.

THE following letter has been addressed to the hon. secretary of the League of National Life:—

Ministry of Health,
Whitehall, S.W. 1.
18th November, 1926.

SIR,—I am directed by the Minister of Health to refer to your letter of the 16th instant in regard to the policy of the Ministry of Health in relation to the giving of information in reference to methods of contraception at maternity and child welfare centres, and to state that the Minister has, in agreement with his predecessors, adopted the policy with regard to this matter which is set out in the following paragraphs:—

(1) That the maternity and child welfare centre should deal only with the expectant and nursing mother (and infant) and not with the married or unmarried woman contemplating the application of contraceptive methods.

(2) That it is not the function of an antenatal centre or a maternity and child welfare centre to give advice in regard to birth control, and that exceptional cases in which the avoidance of pregnancy seems desirable on medical grounds should be referred by the medical officer of the centre for particular advice to a private practitioner or hospital.

I am to explain that this reference of exceptional cases by the medical officer of a centre is a wholly different matter from the giving of contraceptive advice and instruction at the centre itself, and that such reference should be made only on medical grounds by the medical officer of the centre and not by voluntary helpers or nurses on general social grounds.

I am, Sir, your obedient Servant,
(Signed) E. L. PUXLEY.

## THE "S.O.S." SUGAR BASIN.

WE have received from Messrs. Joseph Gilbert and Sons, Sun Works, Bissell-street, Birmingham, a sugar-basin which has been designed to keep the contents free from dust and from contamination by flies by providing an ingenious close-fitting lid. Attached to the inside of the lid is the sugar-tongs, constructed on the principle of lazy tongs, while the handle for working this part of the apparatus, placed outside the lid, forms also the handle for lifting the lid from the container. The invention, which is made in silver or other kinds of plate, should find a place among hygienic contrivances in the home and certainly in hotels and restaurants.

## INDUSTRIAL ILLUMINATION.

WE have received from the Department of Scientific and Industrial Research three technical papers on Illumination Research. The object of the first, entitled "The Terminology of Illumination and Vision" (H.M. Stationery Office, 1926, pp. 21, 9*d.*), is to acquaint readers of the reports published by the Illumination Research Committee with the exact definition of the technical terms used both by the physicists and the physiologists engaged in the various researches. For the former, Mr. J. W. T. Walsh, of the National Physical Laboratory, has made himself responsible, the physical terms needing definition including such expressions as "luminous flux," "brightness," and "international candle." On the physiological side Dr. W. S. Duke-Elder explains the chief technical terms employed in physiological optics, including such matters as the light, form, and colour senses and retinal adaptation. The other papers deal with the Transmission Factor of Commercial Window Glasses, by A. K. Taylor, A.G.G.I., and C. J. W. Grieveson, M.A., B.Sc., of the National Physical Laboratory (pp. 10, 6*d.*), and Light Distribution from Industrial Reflector Fitting No. 1, by H. Buckley, B.Sc., and C. J. W. Grieveson (pp. 26, 1*s.*).

## THE CORKSCREW.[1]

A BETTER knowledge of the history of wine would assist in the public appreciation of the teetotal question, though many economic problems have to be solved before light wines can be drunk in this country in the manner that they were before the corkscrew was invented, and when rich and poor alike could sing metrical toasts while consuming claret out of elegant glasses.* The bottlescrew was the original name of the corkscrew, and the significance of its appearance early in the eighteenth century is that previous to that date wine was a draught beverage, and was consumed from the cask. On the introduction of bottling with cork stoppers, the corks were made conical, and more than half of their substance was left above the neck of the bottle, so that the plug could be extracted by the fingers. Bottles could not be laid on their side, nor the process of maturing as we now understand it carried out. When corks were driven home flush with the necks of cylindrical bottles fit for storing in bins, the corkscrew arrived. As a whole-hearted advocate of wine-drinking, Mr. Simon naturally points to the political schemes for crippling the trade of France as the cause for the bestial drunkenness which afflicted society when Hogarth's relentless pencil drew the degradation of our gin-sodden populations. Home-brewed ale and imported clarets were then replaced by ardent spirits, and fortified port became the beverage of the rich. Gin, British brandy, and home-made cordials, Hollands from the Low Countries, and arrack from the colonies, were freely imbibed by all classes, while a highly-organised trade in smuggling procured French brandy duty free. How important a part smuggling played in the history of England during the eighteenth century can be gathered from the portentous figures which Mr. Simon gives in illustration of successful defiance of the law. A curious side-light is thrown on drinking habits among persons in the highest political positions when we learn of a practice, which lasted to the end of the eighteenth century, in spite of the protests of the Board of Customs, under which all duties on wine imported by British diplomats and political men when returning home from an embassy or from a mission abroad were remitted.

This book is full of accurate and curious information on wine-drinking in England during the eighteenth century, and the written story of social life during the period is embellished with some well-chosen and amusing pictures.

[1] Bottlescrew Days: Wine-drinking in England during the Eighteenth Century. By André L. Simon, F.R. Hist.S. London: Duckworth and Co, 1926. Pp. 273. 21*s.*

## BATS, BUGS, AND PRUSSIC ACID.

BATS were becoming a nuisance in an unfinished attic of a house in the Edgewood Arsenal, the bats were infested with bed-bugs and lice, and the successful attempt to get rid of them all is narrated in the *Military Surgeon* for October by First-Lieut. H. A. Kuhn, of the Chemical Warfare Service. As bats have a certain economic value, being insectivorous, it was first sought to clear them out by laying chloride of lime about, and when that failed, by tear gas. These measures proving unsuccessful, it was decided to use hydrocyanic acid and cyanogen to kill both the bats and their parasites. As the roof of the attic was unfinished it seemed necessary to use these gases in three times the ordinary strength to ensure killing the bats and their parasites quickly. The attic contained 4000 cubic feet, so six three-gallon crocks were placed round the floor, and in each 1500 c.cm. of commercial hydrochloric acid, diluted with an equal quantity of water. Into each of these, at 1.40 P.M., a man, protected by a suitable gas-mask, dropped two packets, each of 6 oz. sodium cyanide, with 3 oz. sodium chlorate, coarsely ground and done up in cheese cloth, and then left the attic, sealing the door, which was not opened till 18¼ hours later,—at 8.10 next morning. Two bats flew out at once, and four others a few minutes later, but these latter dropped, dead, on the ground. Temperature was about 80 deg., and there was a slight drizzle, but no wind. A little lacrymation was noted among people close outside. When the attic was opened there was but a slight odour of gas. No bats survived; 260 dead bats were counted; their parasites were all killed. The possible danger to human life being so great, preventive measures should always be in readiness. In addition to fresh air, intravenous injection of sodium, thiosulphate ("hypo") is recommended as the best antidote, in 25 per cent. solution, to be kept ready in a 5 c.cm. syringe. No one unprotected by a suitable mask should be in the neighbourhood.

## LACRYMAL SECRETION AS A BACTERICIDE.

Dr. Michael Grabham, of Madeira, has addressed a brief statement to the Medical Research Council and the British Empire Cancer Campaign detailing the apparently good results which have been obtained by Dr. F. Pitta, of Funchal, in the treatment of 17 cases of malignant disease with trachoma exudate. The lacrymal secretion has been shown by Dr. A. Fleming to possess certain bactericidal powers and Dr. Grabham attributes Dr. Pitta's happy clinical results to the influence, mainly, of the diplococcus ascertained by Dr. Fleming to be present in lacrymal secretion and named by him *Micrococcus lysodeikticus*. Of the 17 cases treated by Dr. Pitta only two are mentioned in Dr. Grabham's communication with any detail, but one of these, a case of inoperable cancer of the cervix uteri, forms a striking story. Dr. Grabham's pamphlet is in substance a plea for further research directed to verify the imputed inhibitory energy of the natural lacrymal outflow.

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Dr. Crookshank writes to say that the quotation from the Latin version of Galen (18–2–24) that prefaced his Bradshaw lecture (reported in THE LANCET for Nov. 6th, p. 939) should run as follows: "Verumtamen praesentium rerum cognitionem proprio nomine *diagnosin*, hoc est dignotionem, appellare consuevimus."

Messrs. Watson and Sons (Electro-Medical), Ltd., of London, have reprinted an article from the *Electrical Review* describing the equipment furnished by them to the new radiological department of the Edinburgh Royal Infirmary.